

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, NOVEMBER 12, 1898.

No. 20.

ORIGINAL ARTICLES.

A NEW URINARY DISINFECTANT.

By REYNOLD W. WILCOX, M.D., LL.D.,
OF NEW YORK;

PROFESSOR OF MEDICINE AND THERAPEUTICS AT THE NEW YORK
POST-GRADUATE MEDICAL SCHOOL AND ATTENDING PHYSI-
CIAN TO THE HOSPITAL; VISITING PHYSICIAN TO
ST. MARK'S HOSPITAL.

THE problem of how to disinfect the urine has long been a subject of careful study. Many substances lauded in the text-books are disappointing when put to the test either in the cystitis of prostatic hypertrophy or in that of vesical fistula. The latter is the *bête noire* of the surgical wards until such time as the site is in readiness for operation. In the first instance, indeed, while operative procedures (castration, cystotomy) give a fair measure of success, not all are curable by them nor indeed are surgical palliative measures (irrigation, catheterization at regular intervals) entirely free from danger. There is, then, a very large proportion of these sufferers who should not be subjected to local treatment, either because they die if it is attempted, or it is attended by sufficient risk to contraindicate it. To render an acid urine alkaline is not a matter of much difficulty for all salts of the metals potassium, sodium, lithium, and calcium will do this; even the tartrates, citrates, and acetates—for they are eliminated as carbonates, but to a less extent. Even nitric acid, through its conversion into ammonia, may do this. The only question is that of dose and what particular salt the stomach of the patient will tolerate. Litmus paper informs us when the result is accomplished. The generally received opinion is that an excessively acid urine is irritating. While this in a measure is true, it is also a fact that an alkaline urine can be irritating also. Reaction then, considered as such, does not entirely determine the bland or irritating properties of the urine.

In rendering an acid urine alkaline two distinct propositions are involved: (1) Drugs which of themselves alter the reaction, and (2) those which inhibit or prevent its decomposition. The latter need not be dependent upon the former. Of drugs which prevent the urine from decomposing may be mentioned the benzoates, the salicylates, those containing arbutin, as uva ursi and chimaphila, and certain drugs containing volatile oils as copaiba, cubeb, sandal wood, and others. Arbutin, by its decom-

position in the kidneys, breaking up into glucose and hydroquinone is fairly efficient, yet it is generally believed that administered as such it is useless. Hydroquinone is undoubtedly set free in the kidneys, else poisoning would take place more frequently. The volatile oils, often of value, are likely to disorder the stomach and some substances containing them, as copaiba, give rise to disagreeable exanthemata. The free use of the salicylates presupposes the fact that the integrity of the kidneys is established; of the benzoates, mention will be made later. When it is remembered that all of these urinary antiseptics are generally administered in conjunction with urinary sedatives, as some of the *solanaca*,—belladonna, hyoscyamus,—it is clear that full reliance is not placed upon their antiseptic action.

Of drugs which render an alkaline urine acid, hitherto the benzoates have held first place, the influence of salicylic acid being slight in comparison. It is also true that large doses of citric and tartaric acid, of citrates and tartrates, have a similar effect. At another place I have said that saccharin will possibly render an alkaline urine acid. This is undoubtedly true, but only so far as saccharin exerts its antiseptic properties during its elimination, as unchanged saccharin, by the urine. The use of large quantities of water containing carbon dioxide, as first advocated by Ultzmann, has not given uniformly or markedly good results.

In dealing with irritating alkaline urine or with urine depositing phosphates, a urinary acidifier is desirable. In treating patients upon whom local measures, when carried out, result in disaster such a remedy is required. If it shall be proven that a remedy possessing such properties is also a safe and effective urinary antiseptic a real addition to our resources has been made, and when Nicolaier nearly four years ago offered hexamethylentetramin as a remedy which would accomplish both results—clear up a decomposing, and acidify an alkaline urine—the matter seemed well worth investigation. This substance is prepared by union of ammonia and formaldehyd in solution and occurs as colorless crystals which are readily soluble in water and possess the formula $(C_2H_5)_6N_4$. On account of the various ways in which this substance alters urine it has been named urotropin (from *οὐρον*, urine, and *τροπω*, to change). Its first use was as a diuretic and lithon-

triptic. For the latter purpose its ready combination with salicylic acid gives it a peculiar value. That on internal administration it is readily eliminated by the kidneys is shown by its detection with bromin-water (precipitate of urotropin bromid) even within fifteen minutes. Were the good results from its use due only to dilution of the urine from its diuretic effect but minor claims would be made for its efficiency. It is a well-known fact that even uric-acid calculi may be disintegrated by prolonged immersion in a water which is effective in proportion to its purity. To this physical fact certain waters owe their reputation, rather than to the name which they have, or the substances which they are supposed to contain. Thus we must look to a direct action of the drug itself rather than to its diuretic properties however useful these may be. That when excreted in the urine this remedy dissolves uric-acid calculi there is positive demonstration. As for its antiseptic properties Nicolaier's early experiments showed that urine in which was excreted urotropin remained sterile after inoculation with pure cultures of the *bacterium coli commune* and that the drug hinders the development of micro-organisms such as the bacteria of ammoniacal decomposition. He also calls attention to the fact that the *bacterium coli commune* may frequently be a factor in many bacterial diseases of the urinary passages.

As to the mode of action and history of this remedy in the organism Casper has made some observations which tend to show that some of it in the organism is decomposed into formaldehyd. Urotropin was always detected in the urine and sometimes in the blood; formaldehyd sometimes in the blood and generally in the urine, the reason of these variations probably being because there is a combination of this latter substance with albuminous substances in blood or urine so that its presence cannot always be determined. Both substances have been found in the urine as early as ten minutes after administration and as late as fourteen days; generally the period of elimination is much shorter. So much has been written upon the antiseptic properties of formaldehyd, so much laboratory work has been done and its use has been so extensive in practical disinfection that it is superfluous to recapitulate what is already definitely known and what has been put to practical use.

The final question now arises, Is urotropin an absolutely safe remedy? This is of especial pertinence for sound kidneys are the exception when a patient has suffered from long-standing cystitis, no matter what the original cause may have been. The kidneys are subject for suspicion when disorders of metabolism, of which uricacidemia is one expression,

have been marked. It is perfectly true that large doses (90 grains *per diem*) have given rise to burning in the bladder region, urethral pain, and increased desire to micturate. If, when these symptoms have arisen, the same dose is maintained, occasional blood-corpuscles and some transitional epithelium may appear in the sediment. All these symptoms promptly disappear as soon as the dose is diminished. Thirty grains per day are sufficient and from this amount no untoward symptoms have been encountered nor do I know of any record in extant literature. That the decomposition of urotropin into formaldehyd takes place in the blood is evident from the observations of Linossier, who shows that this substance even in well-diluted solutions is a gastric irritant.

The following instances of the use of this remedy are typical ones:

CASE I.—In December, 1894, a gentleman of sixty years of age was seen at his residence. For the preceding four months he had been unable to lie down because of a distressing shortness of breath and incessant cough. Physical examination revealed ascites, hydrothorax, pulmonary edema, aortic and mitral incompetency with dilatation of the left ventricle. Under appropriate treatment the various collections of dropsical fluid were gotten rid of, the heart compensated, and March, 1895, found him able to sleep in bed six to eight hours at night, and in a fairly comfortable condition. He has been under observation during the time which has elapsed until April, 1897. At that time he began to rise more frequently at night, there were frequent stoppages of urine and the voiding of it caused pain. Physical examination showed that cardiac compensation had been maintained and his general condition was fairly satisfactory, slight edema of the feet being excepted. The prostate was found to be distinctly enlarged and there was marked tenderness on pressure over the lower ribs on both sides. The following is the report of the examination of urine: April 9 and 10, 1897, quantity 63 ounces (24 urinations); specific gravity, 1.018; reaction when examined, strongly alkaline; odor, ammoniacal; sediment, large amount, ropy. Chemical analysis: Albumin present, $\frac{3}{4}$ of 1 per cent. by weight; indican, increased; blood, absent; urea, normal; uric acid, diminished. Microscopical examination: Casts, few hyaline and finely granular; pus, present in large amount; epithelium, large amount of pelvic and bladder; crystals, ammonio-magnesian phosphate; bacteria, in large numbers.

The pain on urination, the frequency of the act, the vesical tenesmus were evidently due to the enlarged prostate, secondary bladder inflammation, and recently developing pyelitis. Inasmuch as the patient was residing in the country, it did not seem to be proper either that he should be inducted into catheter life or that local treatment should be undertaken. The tenesmus and pain were markedly re-

lieved by suppositories of the alcoholic extract of belladonna leaves. The use of diluents, balsamics, and benzoates did not materially alter the physical appearance of the urine. On April 30th, salol was prescribed. In small doses (5 to 7 grains) it was without effect; in larger, blood would appear in the urine. Not only was blood-coloring matter present, but altered red corpuscles could be readily found. When 40 grains per day had been reached there was a total absence of sulphates (barium-chlorid test) in the filtered urine, the color became decidedly darker, but while the frequency of urination was diminished, the urine was quite as ropy and the albumin percentage as high if not higher. Salophen and salipyrin each seemed to be of temporary benefit. Sodium salicylate promptly upset the stomach as did oil of gaultheria and volatile oil of betula. Finally it was thought best to return to salol, which was commenced in 5-grain doses on June 12th.

The report of the examination of the urine on June 28th was as follows: Quantity, 56 ounces (18 urinations); specific gravity, 1017; reaction when examined, alkaline; odor, ammoniacal. Chemical analysis: Albumin present, $\frac{1}{2}$ of 1 per cent. by weight; bile, trace; indican, increased; urea, normal; uric acid, normal. Microscopical examination made June 28th: Casts, few hyaline and finely granular; blood, few altered cells; pus, present in considerable amount; epithelium, considerable amount of bladder, few pelvic cells; crystals, ammonio-magnesium phosphate; bacteria, in large numbers.

Inasmuch as the amount of albumin was readily accounted for by the mucus and pus and there was not evidence of serious renal changes, it was thought best to continue the salol, with such regulation of diet as was practicable, and to make use temporarily of spartein sulphate to assist the heart and promote diuresis. Under this *régime* the summer was passed comfortably and locally satisfactory reports were made until November, when the pain, tenesmus, and frequent micturition returned.

The examination of urine was as follows: Passed, November 2nd and 3rd, quantity, 39 ounces (30 urinations); specific gravity, 1011; reaction when examined, alkaline; odor, ammoniacal; sediment, almost solid with ropy substance. Chemical analysis: Albumin, present almost 1 per cent by weight; bile, traces; indican, increased; blood, coloring matter present; urea, diminished; uric acid, diminished. Microscopical examination: Casts, few hyaline and finely granular; blood, numerous red corpuscles; pus, present in large amount; epithelium, large amount and squamous; crystals, few ammonio-magnesium phosphate; bacteria, plentiful.

Evidently the problem was becoming complicated by renal insufficiency. Urotropin in $\frac{7}{16}$ -grain doses thrice daily after meals was ordered, and the spartein was continued. The diet and instructions as to diluent fluids remained unchanged, but salol was omitted. On November 12th there was a marked change in the urine; the amount had risen to 64 ounces (24 urinations) of a specific gravity of 1016, the ropy sediment was lessened, the sul-

phates were normal, and blood had diminished. The ammoniacal odor was less marked, but the bacteria were as plentiful as ever. On the 22d, the change was still more marked; the alkalinity was faint, the bacteria in small numbers, as compared with the past, and the amount of ropy material very much lessened. The treatment was continued.

The examination of urine on November 27th was as follows: Quantity, 61 ounces (14 urinations); specific gravity, 1021; reaction when examined, faintly acid; transparency, nearly clear. Chemical analysis: Albumin present, $\frac{1}{10}$ of 1 per cent; bile, trace; indican, slightly increased; urea, slightly decreased; uric acid, normal. Microscopical examination: Casts, few hyaline; pus, in small amount; epithelium, some bladder, few pelvic cells; bacteria, few in number.

Urotropin has been continued, generally in $\frac{7}{16}$ -grain doses twice daily, a part of the time as 10 or 15 grains at bed-time, with occasionally intermission of a day, until the present time. Medication addressed to his circulatory apparatus has been used as required. No untoward symptoms have arisen from so prolonged a use of the drug, and that it has been prolonged and constant has been due to the implicit belief of the patient that this has relieved him of his suffering and his refusal to do without the remedy.

Examination of urine made on June 29, 1898: Quantity, 55 ounces (ten urinations); specific gravity, 1022; reaction when examined, acid; transparency, nearly clear. Chemical analysis: Albumin, trace; indican, increased; urea, normal; uric acid, slight increase. Microscopical examination: Casts, few hyaline; pus, small number of cells; epithelium, few bladder-cells; bacteria, very few.

This is certainly one of the conditions which perplex the physician. The danger of operative interference, the necessary care in local treatment, and the difficulty of keeping catheters aseptic render these unfortunates subjects for earnest thought. The results in this case, and this, although more striking, is but one of several which could be cited, show that the problem has become much simplified. It is evident that urotropin is not bactericidal, but rather inhibits bacterial development.

The extension of the field of usefulness of this drug in preparatory treatment for necessary surgical intervention is left for the surgeon to develop. The frequently unexpected fatality of the minor operations, and even after explorations, show plainly that preliminary treatment is necessary if the surgeon would relieve himself of blame.

The following is an unusual but difficult condition for treatment:

CASE II.—An unmarried clergyman, thirty-one years old, had suffered from various dyspeptic symptoms for more than a year. He was excessively nervous, a light sleeper, exceedingly variable in his

temper, and entirely disinclined to attend to his duties. The immediate cause for his seeking medical advice was his discovery of the fact that he was passing a turbid urine, which was whitish in color, during the morning hours. He had decided that the cause of the turbidity was semen, and that his intellectual and physical end was imminent. On assuring him that true spermatorrhea was one of the rarest of conditions, he became somewhat satisfied.

The examination of urine on March 6th resulted as follows: Specific gravity, 1026; reaction when examined, alkaline; appearance of sediment, "sandy." Chemical analysis: Albumin, absent; bile, traces; indican, increased; urea, normal; uric acid, increased; phosphates, earthy and alkaline, increased. Microscopical examination: Casts, absent; spermatozoa, none (centrifuge specimen); epithelium, small amount of bladder; crystals, ammonio-magnesian phosphate; bacteria, absent.

On boiling the urine the turbidity immediately increased; a small addition of nitric acid cleared it. The night urine was free from turbidity, but contained an increased amount of earthy phosphates. A strictly meat diet was insisted upon, gentian and nitrohydrochloric acid prescribed before meals, an increase of out-door exercise, and freedom from anxiety declared to be necessary. On the 19th, there was substantially the same report. The urine showed a small amount of phosphates during the morning hours, but still sufficient to make it turbid when voided; it was still alkaline up to noon. Recalling the fact that urotropin is one of the drugs upon which most reliance can be placed as an urinary acidifier, 10 grains were ordered to be taken after each meal. The other remedies were continued, for the patient was verging upon insanity, so excited had he become about his "muddy" urine. Three days later (22d) he reported that his urine was entirely clear during the whole twenty-four hours. The gentian and nitrohydrochloric acid were now omitted; the urotropin was continued.

On March 31st the examination of urine showed: Specific gravity, 1021; reaction when examined, acid; transparency, clear. Chemical analysis: Bile, absent; indican, slight increase; urea, slight increase; uric acid, normal; phosphates, earthy, slight increase; alkaline, normal. Microscopical examination: Epithelium, few bladder-cells.

Urotropin was continued in 15-grain doses night and morning. April 29th he reported that there had been no recurrence of symptoms; medication was then stopped. On June 15th the report was made that the patient had remained entirely well since his last report.

While it is undoubtedly true that recovery would have taken place under the classical treatment, it is equally true that the prompt and absolute clearing up of the phosphaturia under urotropin produced so marked a mental impression that further progress was rapid toward recovery. Notwithstanding this, there is no reasonable doubt that this is a remedy

of remarkable potency for the clearing up of phosphatic urine.

CASE III.—A young man, aged twenty-four years, reported that six days before he had noticed an urethral discharge which had come on four days after an illicit connection. He had been treated by a physician who had given him injections and internal medication until he could neither eat nor sleep. He was nauseated, suffered from incessant pain in the bladder, had a continued desire to pass water, which, when accomplished, resulted in the voiding of a small amount, and of severe smarting. Physical examination revealed a copious urethral discharge, yellow in color, and of a thick consistency. Microscopic examination of the discharge revealed large numbers of the gonococci (Neisser's method). The examination of urine on June 2d showed: Specific gravity, 1018; reaction when passed, alkaline; transparency, cloudy. Chemical analysis: Albumin, full trace; blood, small quantity. Microscopical examination: Blood, many red corpuscles; pus, in abundance; epithelium, large amount of bladder; bacteria, in great abundance.

The inflammation was altogether too vigorous to permit the use of the endoscope. Silver citrate (Credé) in 1-per-cent. solution was injected every four hours by the patient, this being preceded by an injection of the official solution of hydrogen dioxide and lime-water in equal parts. Internally urotropin was prescribed in $7\frac{1}{2}$ -grain dose four times daily. On the 4th it was reported that the urine could be retained for an hour, the pain was markedly lessened, the appetite had returned. Gonococci were still numerous. The urine was natural, but contained no blood. On the 6th, the patient claimed that there was great relief from the pain and dysuria, and that the discharge had almost ceased. After preliminary irrigation with normal saline solution an endoscope of small caliber was inserted and the entire urethra found to be actively inflamed so far as the instrument reached. The discharge still contained a few gonococci. Two days later it was possible to make a thorough exploration with the above precautions. The urethra was uniformly reddened and still quite sensitive. No gonococci were found (4 slides, Neisser's stain).

The examination of urine on the 8th showed: Specific gravity, 1020; reaction when passed, acid; appearance of sediment, slightly flocculent. Chemical analysis: Bile, trace; indican, increased; blood, absent. Microscopical examination: Pus, few cells; epithelium, few bladder-cells; bacteria, in small number.

The instructions for treatment were repeated, and on the 10th he again reported still further improvement. The endoscope showed that the urethritis had quieted considerably. Urine could be retained for three hours. On the 15th, there was no discharge, and but little burning on urination. On the 20th, injections were discontinued. Four days later all symptoms being relieved, all medication was omitted. On July 8th, no gonococci were

found on stripping the urethra, no symptoms had returned and the patient was released from attendance. The disappearance of the gonococci within six days is doubtless distinctly chargeable to the silver citrate. But as that has no effect upon the inflammation, either of bladder or urethra, it seems best to administer internal remedies. The correction of the excessive alkalinity of the urine, undoubtedly brought about by the careless administration of alkalies, and the irritation added to, possibly by neglect of dietary precautions, had brought this patient to a deplorable condition. Urotropin cleared the urine with promptitude and the good effects continued.

CASE IV.—A young woman, aged twenty-four years, was delivered of a girl some two years after her marriage. The labor which occurred in December, 1897, was uneventful. She recovered well, except for a pain which was severe in passing urine, a constant desire to urinate, and pains in back and limbs. For these symptoms she had been treated locally and internally by the physician who attended her. On February 24th, she came under observation for these and symptoms which might indicate renal disease. The examination of urine on February 24th, showed: Quantity, 41 ounces; specific gravity, 1026; reaction when examined, neutral; appearance of sediment, much, flocculent. Chemical analysis: Albumin, $\frac{1}{8}$ of one per cent. by weight. Microscopical examination: Casts, few finely granular; blood, few cells; pus, small quantity; epithelium, plenty of bladder, and some pelvic; crystals, few ammonio-magnesian phosphate; bacteria, in abundance.

Inasmuch as there was a likelihood of bladder infection and secondary pyelitis through catheterization, on four or five occasions during the puerperal month, by the nurse, it was thought best to clear the urine in order, if possible, to get more definite information as to the kidneys. Urotropin in 15-grain doses was given twice daily. Nearly a month later (March 22nd), she reported, saying that all symptoms had disappeared within a week of her visit, but that she had continued the remedy one week longer. During the time which had elapsed there had been no return. The examination of urine March 22nd, showed: Quantity passed in 24 hours, 49 ounces; specific gravity, 1017; reaction, acid; appearance of sediment, flocculent. Chemical analysis: Albumin, $\frac{1}{8}$ of one per cent. by weight. Microscopical examination: Casts, few finely granular, few epithelial and many hyaline; epithelium, very few bladder-cells.

The history seemed to point to the fact that an infection, involving both the bladder and the pelvis of the kidneys, had taken place in a woman whose kidneys were previously diseased. This local treatment had not benefited. Within one week the bladder was relieved, she received treatment for a second week and remained well for two weeks without medication. The patient is now under treatment for the renal difficulty.

From a study of the above observations and of

others, it seems fair to present the following conclusions:

1. Urotropin produces no untoward symptoms when administered in amounts of 30 grains *per diem*.
2. It renders an alkaline urine acid no matter what the cause may be.
3. It inhibits the development of the micro-organisms of ammoniacal cystitis and in this way clears up cloudy urine.
4. It is indicated as a preparatory disinfectant in operations upon the urinary tract; in pyelitis, cystitis, and other inflammation of the urinary tract irrespective of their cause in phosphaturia, and in other conditions tending to formation of urinary calculi.

BIBLIOGRAPHY.

- Nicolaier, *Centralblatt für die Medicinische Wissenschaften*, No. 51, S. 897, 1894.
 Bardet, *Les Nouveaux Remèdes*, No. 8, p. 171, 1894.
 Nicolaier, *Deutsche Medicinische Wochenschrift*, No. 34, S. 541, 1895.
 Flexner, *American Practitioner and News*, No. 13, p. 484, 1895.
 Cohn, *Berliner klinische Wochenschrift*, No. 42, S. 914, 1897.
 Loebisch, *Wiener klinische Wochenschrift*, No. 2, S. 304, 1897.
 Casper, *Therapeutische Monatshefte*, No. 52, S. 1338, 1897.
 Elliott, *North American Practitioner*, vol. 12, p. 451, 1898.
 Casper, *Monatsberichte der Krankheiten des Harn- und Sexual-Apparates*, No. 1, S. 1, 1898.
 Boun, *Prager Medicinische Wochenschrift*, No. 18, S. 208, 1898.
 Mendelsohn, *Berliner klinische Wochenschrift*, No. 3, S. 48, 1898.

CLINICAL OBSERVATIONS IN REGARD TO GENERAL ANESTHESIA BY THE SCHLEICH MIXTURES.¹

By HENRY J. GARRIGUES, M.D.,

OF NEW YORK.

If any one should doubt the propriety of bringing the subject of anesthesia before a gynecological society I would answer that not only a great part of the gynecologist's work is operative, and that consequently he is interested in the use of anesthetics, but that his operations often are of unusual duration as compared with other surgical operations, and that he often has recourse to the Trendelenburg position, which entails particular dangers in regard to anesthesia. And, furthermore, the special anesthetic which is the subject of this investigation recommends itself particularly to the gynecologist for diagnostic purposes, as will be shown later.

This Society offers, also, the special advantage of being a national society, counting among its members some of the greatest operative gynecologists from nearly all parts of the country, so that it is particularly fit for testing the value of a new anesthetic.

The question of anesthetics has evoked consider-

¹ Read at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25, and 26, 1898.

able interest of late years. Ether, on account of its threefold greater safety, is constantly gaining ground as compared with chloroform; but some have in the mixture of both with the addition of absolute alcohol—the so-called A C E mixture—thought to be found the best of all anesthetics, its record as to safety having distanced all others.

As opposed to general anesthesia, which by its very nature contains an element of danger to life, Dr. Schleich¹ of Berlin, in 1894 strongly advocated a much more extensive use of local anesthesia and discovered the anesthetizing power of solutions containing so small an amount of cocain and morphin that the element of danger is eliminated. The whole procedure is, however, so complicated that it is very unlikely to become of any great importance in the kind of work with which we are concerned.

On the other hand, this same Dr. Schleich has investigated the physical laws that underlie general anesthesia, and indicated new mixtures which he claims are preferable to any general anesthetic hitherto in use. He says it is evident that an anesthetic which evaporates rapidly can be rapidly eliminated through the respiratory tract, whereas a slowly evaporating gas must stay longer in the body and is more apt to cause a dangerous accumulation. According to his theory, the composition of the anesthetic should, therefore, be such as to have a boiling-point proportioned to that of the body. For quite short operations he recommends the use of an anesthetic that has a boiling-point identical with the temperature of the body, and for long operations one with a boiling-point 2° or 3° C. (3.4° to 5.4° F.) higher, which latter he also recommends for patients with fever.

Schleich says, also, that the chemical reaction of the saliva shows that in mixtures of fluids with low boiling-point with others with high boiling-point, the latter are carried along by the former, so that they are eliminated much faster than they would be if used alone.

Chloroform has the high boiling-point 65° C. (149° F.), while sulphuric ether has the low boiling-point 34° C. (93° F.) By experimenting with different fluids he came to the conclusion that the best anesthetic was a mixture of chloroform, sulphuric ether and petroleum ether at a boiling-point between 60° and 65° C. (140° to 149° F.).² He chose petroleum ether because he had found in experiments on animals that we do not possess any other ethereal substance of which such astonishing quantities may be injected hypodermically without the occurrence of serious

disturbances. He uses these three substances in different proportions constituting his three mixtures:

Mixture I.—Boiling-point 38° C. (100.4° F.):

	Parts by Volume.
Chloroform	45
Petroleum ether	15
Sulphuric ether	180

Mixture II.—Boiling-point 40° C. (104° F.):

Chloroform	45
Petroleum ether	15
Sulphuric ether	150

Mixture III.—Boiling-point 42° C. (107.6° F.):

Chloroform	30
Petroleum ether	15
Sulphuric ether	80

It appears from these formulæ that Mixture I. contains $\frac{3}{4}$ chloroform—that is, a little less than $\frac{1}{2}$; Mixture II., $\frac{3}{4}$, or a little more than $\frac{1}{2}$; and Mixture III., $\frac{3}{4}$, or a little less than $\frac{1}{2}$.

The first to call attention to this new anesthetic in this country was Dr. M. L. Maduro,³ who had had the opportunity of seeing it administered in Schleich's clinic. In a later paper⁴ he unfortunately stated that rhigolen could be used instead of petroleum ether. This was due to the mistake that rhigolen, which has the low boiling-point of 70° F., was thought to have that of 70° C. Such statement not being revoked has, perhaps, led others like myself to experiment with a wrong and dangerous mixture. I used it in a number of cases before my attention was called to the error by the manufacturer of both rhigolen, and petroleum ether. Later Dr. Maduro read a paper embodying his experience with a hundred cases before a society in Philadelphia.

Dr. W. Meyer read a paper on Schleich's method before the New York County Medical Society on December 27, 1897, based on his experience in 100 cases, and accorded unstinted praise to the new anesthetic, which he declared to be a solution, not a mixture.⁵ He was, however, later informed by Dr. H. P. Weidig, that No. I. contains 53.76 per cent. in volume of free ether; No. II., 44.64 per cent., and No. III., 36.96 per cent.⁶ According to his latest communication he now uses only a mixture of 43.25 per cent. by volume of chloroform, and 56.75 per cent. of sulphuric ether, which form a molecular solution, which he gives by the continuous drop method.⁷ It will be noticed that this abandonment of Schleich's mixtures is exclusively based on theoretical grounds. From his practical experience in upward of 100 cases he was "delighted with the improvement in general anesthesia by means of these

¹ Maduro, MEDICAL NEWS, November 27, 1897.

² *Ibid.*, December 18, 1897.

³ W. Meyer, Reported in the *Medical Record*, p. 62, January 8, 1898.

⁴ *Ibid.*, p. 358, March 5, 1898.

⁵ *Ibid.*, p. 607, March 5, 1898.

¹ C. L. Schleich, "Schmerzlose Operationen." Berlin, third edition, p. 166, 1898.

² Such petroleum ether is manufactured by Cooper, 194 Worth St., New York.

mixtures, and tried to induce his colleagues also to make use of the same for the sake of their patients."

Drs. Stillmann and Greeley have reported forty-four cases anesthetized by the Schleich method in the New York Infirmary for Women and Children. The average length of the operations was fifty-two minutes; the average amount used to produce anesthesia was seven-eighths of an ounce; the average amount used in all, three and one-third ounces; the average time it took to produce anesthesia was ten and one-half minutes, and consciousness returned on an average in fourteen minutes. Eighteen patients were considerably nauseated during twenty-four hours after the operation, three of them more so than after other anesthetics administered at previous operations. Mixture I. was used in 24 cases, Mixture II. in 16 cases, and Mixture III. in 4. The muscular reflexes were difficult to control with No. I., and Nos. II. and III. "would be used in a larger proportion of cases again." They used Esmarch's mask covered with flannel and oiled muslin. With few exceptions the patients received $\frac{1}{4}$ -grain of morphin and $\frac{1}{16}$ -grain of atropin half an hour before the operation. It will appear in the following that in entirely similar operations we used much more frequently the weakest solution, needed much less to produce anesthesia, produced it in much shorter time, and had much less vomiting.

Schleich's theory that the danger of the different anesthetics chiefly is due to the difference in their boiling-point, and that the composition of the mixture should be decided by the patient's temperature, may be questionable, and it will be seen in the following that my personal experience does not always bear out that theory. My investigation has been purely clinical. Having for many years taken a deep interest in the question of anesthetics, and being persuaded that our present methods were open to great improvement, as soon as I read Dr. Maduro's report of the Schleich anesthetic I made arrangements with my colleagues at St. Mark's Hospital to give it a fair trial, and without enthusiasm or prejudice to try to obtain material enabling me to form an opinion as to its merits and drawbacks, based on facts accurately observed and systematically recorded. In this work I have been ably assisted by Dr. C. J. Buddeke, a member of the house-staff, who, when other engagements prevented my presence, has carried out the investigation on the lines traced by me. In this way we observed and recorded 100 cases, which form the base of the following report.

With any kind of anesthetic we have to take into consideration first of all, safety; secondly, speed; thirdly, the comfort of the patient; fourthly, sim-

plicity, and, finally, economy. The safety of the new method cannot be proved until it has been used many thousand times and its record made up in conformity with that of the other anesthetics. So far we can only state that no case of death has been reported with the Schleich mixtures. Like all other anesthetics, that of Schleich contains, however, an element of danger. We cannot make that profound impression on the brain which is needed to abolish sensation without coming dangerously near paralyzing the centers of respiration and circulation. But so far as my observation goes as to the appearance of the patient, the absence of struggling, the condition of the respiration, the pulse, the pupils, and the urine, the promptness with which consciousness returns after the withdrawal of the anesthetic, and the unparalleled comfort of the patient after the return of consciousness—all this leads me to look upon the new anesthetic as less dangerous than any one we have known hitherto. In regard to speed, it ranges between chloroform and the A C E mixture.

As to the patient's comfort, it is simply amazing. Where we used to see patients lying insensible for hours, leaning over the vessel destined to receive their vomit, we find them now lying quietly on their backs, or see them sit up or leave the hospital or office in a short time without even needing a companion. Our nurses soon found out how much less attendance was needed on their part with the Schleich mixtures, and patients who had tried ether and chloroform on other occasions found the Schleich mixture much pleasanter than either of them. In regard to simplicity, the new method leaves nothing to be desired, a common Allis ether-inhaler or the paper and towel cone being all the paraphernalia called for. In private practice it does not make much difference if one anesthetic costs a few cents more than another; but in the budget of a hospital the item of anesthetics is a very large one, and the comparative cheapness of the Schleich mixture is another point in its favor. The price of chloroform is \$1.08 per pound, that of ether 99 cents, and that of petroleum ether only 50 cents. The combination costs a little less than ether, and very much less is used of it.

The mixture may be used in every case in which general anesthesia is not contraindicated. The age of our patients ranged from ten to eighty years. Three had heart disease, 1 stenosis of the aorta, 1 a fatty heart, and 1 accentuated second sound; 2 had marked arteriosclerosis; 4 had lung trouble, 2 bronchial breathing; another sibilant râles, and a fourth absence of respiratory murmur on the right side. In seven cases the urine was more or less al-

buminous before the administration, and their condition was in no way made worse by it, and in not a single case did there appear albumin when it had not been there before. If this seems to prove too much, since albumin and casts are found frequently after longer operations, especially when chloroform has been given, I must state that the urine was examined in every case, but not before the next day, and then it was found normal if it had been so before the operation. In two cases there was a trace of sugar in the urine before the anesthetic was given, in one of which it had disappeared after. There was one alcoholic. He offered no resistance, was anesthetized in seven minutes, and needed only 20 c.c. of the weakest mixture. In twenty cases the general condition of the patients before operation was only fair, and in nine it was decidedly bad.

In an institution like St. Mark's Hospital there was of necessity a great preponderance of serious operations, such as laparotomies, hysterectomies, removal of the appendix vermiformis, pylorotomy, gastrotomy, etc. Many of these operations were difficult and required much time. The average duration was 52 minutes, but in 13 cases it was between 1 and 2 hours, in 4 between 2 and 3 hours, and in 1 even $3\frac{1}{2}$ hours. Frequently Trendelenburg's position was used. In an empyema operation with total absence of respiratory murmur on one side, the patient was lying on the healthy side, and in another case the patient had to be laid partly on the side and partly even on the abdomen during a bloody operation lasting fifty minutes.

I have tried different forms of inhalers. An Es-march chloroform mask covered with flannel and oiled silk, through which goes the nipple of a baby-bottle from which the end has been cut off so as to form a funnel, has been recommended by those who use the drop method. The solution dissolves, however, the resinous part of the oiled silk, and I therefore replaced it by sheet-rubber, which worked well; but it is often difficult to hold the bottle just over the little funnel so as not to miss it. Maduro uses the well-known American towel-and-paper inhaler, which has the advantage of being always improvised, and therefore, clean and odorless. It has, however, to be removed from the face in order to pour on the anesthetic. I soon came to the conclusion that Allis' ether-inhaler worked best of all. It is, under ordinary circumstances, never removed from the face during the administration of the anesthetic. In the beginning the top is left open, so that the patient gets plenty of air and is not frightened. Later, when he is half or totally unconscious, the top is folded together, and is kept closed or opened according to the condition of the patient.

We use the double-tube attachment to the bottle, by which one can easily pour the fluid out drop by drop, or in a thin stream. We start with a few drops, and soon proceed at such a rate as to administer on an average 1.5 c.c. every half minute.

In the beginning we followed Schleich's rule about choosing a solution the boiling-point of which was proportioned to the temperature of the patient; but I soon found that we could anesthetize our feverish patients as well with the weakest solution. In one woman the temperature was 103.6° F., and still it took only six minutes to anesthetize the patient with No. I., and only 20 c.c. were used. Differing from others who have reported their experience, we have, therefore, used No. I. nearly exclusively—ninety cases. No. II. was only used once, in the case of a patient with a temperature of 99.8° F. No. III. was used in six cases, one patient having a temperature of 104.8° F., two 102° to 103° F., and two 99° to 100° F., and the sixth normal temperature. In three cases we began with No. I. and changed to No. III., in the two when anesthesia had not been obtained in ten minutes, and in a third after thirty-eight minutes, because it was not deep enough. I have, therefore, made it a rule to begin with the weakest solution in every case, and if anesthesia is not produced in ten minutes to substitute the strongest. In private practice it is advisable to have the three ingredients in separate bottles, and a measuring-glass divided in 100 c.c. If Mixture I. does not keep the patient immobile, or the muscular relaxation is unsatisfactory, transition is likewise made from Mixtures I. to III. No. II. seems superfluous to me. In spite of our using Allis' large cone, pouring the fluid on intermittently in a stream and using the weakest solution, we have used much less of it than others. The average amount used to produce anesthesia has been 17.45 c.c., a little over half a fluidounce. The lowest amount was 7.5 c.c., the highest 35 c.c. In the large majority of cases from 15 to 20 c.c. sufficed. In the one case in which Mixture II. was used, a patient with a temperature of 99.8° F., 25 c.c. were needed to produce anesthesia. Of the six patients who received Mixture III., two had 10, one 15, and three 30 c.c.

The total amount used during the whole operation has been much smaller than that of others. While Drs. Stillmann and Greeley used on an average three and a half ounces (105 c.c.) for an average time of fifty-two minutes, and Dr. Meyer from six to eight ounces for operations lasting from forty to sixty minutes, we have only used on an average 50.91 c.c. for an average time of fifty-two minutes. Minimum, 20 c.c.; maximum, 130 c.c. Unfortunately, most operators are in a hurry to begin their opera-

tions and are very apt to be unreasonable in their demands on the anesthetist at the peril of the patient's life. Rapidity of action is doubtless the chief reason why so many surgeons still use chloroform after its much greater danger as compared with ether has been proved by statistics embracing many thousand cases.

With any kind of anesthetic there will, on account of individual peculiarities, always be patients who require much longer time than others to be safely anesthetized. I operated once on a lady, and an assistant who had had considerable experience at the Charity and Maternity Hospitals in giving both ether and chloroform gave chloroform for me during three-quarters of an hour without obtaining unconsciousness, but causing tetanic contraction of the muscles. We then changed for ether, which had to be given during half an hour before the patient was anesthetized. In another case I personally gave ether for half an hour without abolishing sensation, and had then to change to chloroform. In a third case anesthesia could not be produced at all. It was an apparently strong, healthy woman, forty-two years of age, who in former years had had attacks of petit mal. We tried in vain Schleich's mixture, ether, A C E mixture, and Cole's mixture of ether and oxygen. Whatever we tried had the same effect, namely, that the moment consciousness became slightly dimmed she stopped breathing altogether. If speed shall decide the choice of the anesthetic, it seems that the gas-ether method must be awarded the palm, since it is claimed that the patient is ready for operation in two minutes. I have no personal experience with this combination, but the difficulties inherent in the administration of nitrous-oxid gas will at best limit its use to hospitals, and there remains, of course, all the undesirable effect of ether anesthesia—the frequent vomiting, the unpleasant taste, lasting for twenty-four hours, and the inextinguishable thirst.

Compared with other anesthetics, the Schleich mixtures have given us entirely satisfactory results in regard to the time needed for anesthetizing the patients. Not only has our average been six minutes, but six minutes has by far been the time most frequently required. Our minimum has been two minutes and our maximum seventeen minutes. This last length of time was needed in a woman whose temperature was 101° F., and who was in a low condition on account of puerperal sepsis. We have very rarely needed over ten minutes, and such cases occur just as well with ether and chloroform. The one patient who received Mixture II. needed it nine minutes; with No. III., four, six, seven, nine, thirteen, and fifteen minutes respectively was needed; in the

two cases in which No. I. was changed for No. III., after fourteen minutes, four additional minutes was required. Our average of six minutes is considerably shorter than that given for ether by Dr. B. B. Brouner,¹ in his excellent article on "Rational Etherization," with which I fully agree. His average time was eight and a half minutes. There has been remarkably little excitement before unconsciousness was produced. Only two showed a slight degree, and three others struggled a little. In the only alcoholic patient we had there was no struggling at all. There has been much less accumulation of mucus in the mouth and throat than with ether. Only in two cases has it been abundant; in four, moderate; and in six, slight.

Schleich claims that there is no cyanosis at all with his method. We have, indeed, not had a single case of that pronounced blueness so often observed during other anesthesia, especially in Trendelenburg's posture. But we have recorded slight cyanosis in three cases and moderate in three, one of which was in Trendelenburg's position, and the other in the knee-chest position. There is also much less vomiting than when ether or even chloroform is used. In 69 per cent. there was no vomiting at all; in 27 per cent. it was slight; in 2 moderate; in 1 it lasted an hour and a half, and in another case it was considerable, but in not a single one severe. One patient had eaten a full dinner three hours before being anesthetized, and still he did not vomit and felt perfectly well shortly after the operation. I have not been able to find a constant influence on the pulse. In many of our cases the excitement of having to undergo an operation would cause a frequency of pulsation, which gave way to a normal pulse under the influence of the anesthetic. In many others we counted a few more beats per minute at the end than before beginning, and in a large number a few less. As to the volume there is a tendency to diminution, but we have not had a single case in which it had a serious character.

The real danger with Schleich's mixtures as with other anesthetics lies in its influence on the respiration. The frequency of the respiratory movements was invariably increased—minimum 24, maximum 65, commonly between 30 and 40 per minute. In three cases we have had arrest of breathing, which, however, easily yielded to artificial respiration by Sylvester's method, inhalation of oxygen, and hypodermic injection of strychnin. In one of these cases $\frac{1}{4}$ grain of morphin and $\frac{1}{160}$ grain of atropin had without my knowledge been injected under the skin two minutes before beginning the anesthesia. Opinions are much divided about the value of the pre-

¹ W. B. Brouner, *Medical Record*, January 29, 1898.

liminary administration of narcotics before giving anesthetics; but under all circumstances at least twenty minutes should have elapsed since the narcotic was given before anesthesia is begun. Otherwise we risk getting an incalculable cumulative effect. The second case was that of a very fat man with fatty degeneration of the heart and albuminuria. The third was a young woman with hyaline and granular casts in her urine, who was being examined with the cystoscope. Upon the same patient I later performed Alexander's operation without having any trouble from the same anesthetic. In a fourth case the respirations became very superficial, and similar means as the above-mentioned were used to bring it back to the normal type. In three of these four cases the administration of the anesthetic was resumed and continued till the end of the operation. The respiration should be watched carefully and constantly. Not only deep and frequent respirations are a warning that the patient needs more air, but slow and superficial breathing is of still worse purport, and should be met by immediate intervention or discontinuance of the anesthetic and employment of the usual remedies for failing respiration. We also watched the pupils very closely. In nearly all cases they were contracted, but in two they were dilated, and in five they were alternately dilated and contracted. According to Schleich (*loc. cit.*, p. 65) the contracted pupil is that of natural sleep, the dilated is found in poisoning with carbonic acid. He says, therefore, that when the pupil is dilated the cone should be removed, so as to admit more oxygen. This would, however, not have been possible in those cases in which it was dilated all the time. But the dilated pupil being also that of death, I hate to see it, and am particularly watchful when it appears.

One of the greatest advantages of the Schleich method is the rapid return to consciousness and a normal condition. The average time at which the patients regained consciousness was fifteen minutes—minimum, one minute; maximum, forty minutes; most frequently, nine minutes.

The ease with which the patients take the anesthetic and the rapidity with which they return to a normal condition, in which respect it is only surpassed by nitrous oxid gas, is of particular value to the gynecologist, as it will induce him to extend the use of the valuable examination under anesthesia and make the undesirable exploratory incision rarer and rarer.

The outcome of my investigation is, then, that the Schleich mixtures are easily taken; that they may be used in all cases in which general anesthesia is not contraindicated; that anesthesia can be induced

in a short time and kept up with small amounts of the fluid; that there is little accumulation of mucus, little vomiting, hardly any cyanosis; that there is no bad effect on the kidneys; that the heart is not much influenced by it, although somewhat weakened; but that there is some danger in regard to respiration, although apparently not more so than with other anesthetics; and finally, that it affects the patient much less than ether or chloroform. I can, therefore, recommend it for general use. Its advantages are so great that it ought at least to have a fair trial and only be condemned for cause.

SIMPLE AND MALIGNANT JAUNDICE OF PREGNANCY; REPORT OF THREE CASES.¹

By W. B. YOUNG, M.D.,
OF BON AIR, TENN.;

PROFESSOR OF GYNECOLOGY AND ABDOMINAL SURGERY IN
SEWANEH MEDICAL COLLEGE.

DURING pregnancy simple jaundice is observed frequently, but the malignant form remarkably rarely, if one can rely upon text-books and medical periodicals. Fortunately, I had never seen jaundice as a complication of pregnancy until within the last few months. My experience with this disease is sufficiently unique to cause me to report the cases to this Society. The literature I have examined has very little to say upon this subject. In a diligent search through the files of the *MEDICAL NEWS* from 1888 to 1898 I found only one short article upon jaundice during pregnancy. Looking through the files of the *American Journal of Obstetrics* for 1891, 1892, 1893, and 1894, and the *American Gynecological and Obstetrical Journal* for 1895, 1896, and 1897, I failed to find one word upon the subject of simple or malignant jaundice of pregnancy. I also looked over all the exchanges at my command, the *Medical Council*, *Southern Practitioner*, *Cincinnati Lancet-Clinic*, *Philadelphia Medical Journal*, *Virginia Semimonthly*, *Nashville Journal of Medicine and Surgery*, and some others, and found them also as silent as the grave upon the subject. It is true I might have overlooked the matter in some of the journals, but hardly think so.

Winkel, in his book on midwifery, page 255, says: "Jaundice is a rather rare disease of pregnancy." He has observed it only once in the catarrhal form, and of an aggravated type. Carl Braun observed the grave form only once in 28,000 pregnant women. Spoeth saw the disorder only three times in 14,061 pregnancies, Duncan once in 10,000 cases, and Winkel once in 16,000 cases.² All the authorities, I believe, agree that the same

¹ Read before the Upper Cumberland Medical Society, at Carthage, Tenn., May 5, 1898.

² "American System of Obstetrics," vol. i, p. 427.

cause or causes that bring on an attack in the non-pregnant woman will produce it in the pregnant, other things being equal.

In the "Practice of Medicine" by Wood and Fitz I find the following statement in regard to the etiology of the affection: "Mainly through the researches of Stadelmann it is now generally admitted that all cases of jaundice are due to the obstruction to the outflow of bile from the liver and the absorption of its pigment through the lymphatics of the liver, for there is no absorption of bile when the common bile-duct and the thoracic duct are tied." This has reference to simple jaundice. Carreau, in the *MEDICAL NEWS* of August 1, 1891, makes this statement in regard to the malignant form: "As to the pathology of grave jaundice two factors are necessary, the blood and the bile, but experience has long since proven that the mixture of these two bodies is inoffensive. The symptomatic yellowness, due to the biliary retention, may last for weeks and even months without altering, sensibly, the health, when all at once, under some unknown influence, the phenomena of grave jaundice show themselves and carry off the patient in a few days."

In my experience the prognosis in jaundice in pregnancy must be seriously guarded. Dr. John T. Winter concludes that every case of jaundice occurring in pregnancy should be looked upon as serious, jeopardizing both mother and child. Jaggard of Chicago says the prognosis in simple jaundice should be guarded in view of the unfavorable influence exerted by pregnancy upon the cause of the disease. He also states that it is doubtful whether an authentic case of this disease (grave jaundice) has ever terminated in recovery.¹ Grandin and Jarman state that "pregnancy is rarely complicated by icterus, but the disease assumes special importance from its tendency to become a malignant type," and the prognosis must always be guarded. Lusk says: "Icterus, although a phenomenon of rare occurrence during pregnancy, is interesting and important on account of its tendency to precede or to accompany the fatal pathological changes and symptomatic events connected with acute yellow atrophy of the liver." Playfair observes: "The chief anxiety in regard to jaundice in pregnant women is that it is the frequent precursor of the serious disease (grave jaundice), and that in this affection the prognosis as regards the mother is as bad as anything can be, very few cases, and these of doubtful character, having recovered." When a simple icterus takes on a malignant type it is very insidious, but within a short time it becomes rapid in its

progress, and the woman is often in a fatal condition before the physician is aware of her imminent danger.

Grandin and Jarman give the following description of this change: "The transition of a simple icterus into the malignant form is gradual, and usually manifests itself by rise of temperature, this being absent in case of simple icterus. Cerebral symptoms rapidly develop, such as headache, difficulty in breathing, and delirium. The cause of the disease is rapid toward a fatal termination in a few days. The treatment can simply be symptomatic. It avails nothing to empty the uterus either in the interest of the mother or child."

The three cases I am about to report developed within a few days of each other, and the victims lived in the same little village not more than 100 yards apart. In the discussion of this paper I would like the members to take notice of this fact: Might there not have been a local cause? Two of the women, Cases II. and III., were twin sisters, and lived in the same house. Has the disease a hereditary tendency? The first two were supposed to be cases of simple jaundice, and were treated as such, but the first few days proved to be the prodromata of the fatal malady.

CASE I.—Mrs. B. D., aged thirty-five years, blonde, weight about 120 pounds; mother of ten children; six-months' pregnant. Ever since I first knew her she had been in reasonably good health. Being poor, she did her own housework, and took in washing to help support the family. During the six months of her pregnancy I was not consulted. About January 10th she called me in as I was passing and said: "I want you to give me some medicine, for I have 'yaller janders,'" and indeed she had developed a true case of icterus. I prescribed diuretics, baths, and the remedies ordinarily used in treating jaundice. I heard nothing more of her until January 20th, when I was sent for. On my arrival I found the jaundice much increased. She complained occasionally of great pain in the region of the stomach, and of severe headache. Everything looked yellow to her, and almost all the symptoms of an aggravated case of icterus were present. There was no elevation of temperature. Her pulse was about 80 and her bowels were acting, but the discharge was of a distinctly clay color. Her urine was scant and very highly colored.

She seemed to be in remarkably good spirits considering her serious condition, laughing and jesting with the family. Her high spirits without elevation of temperature and without any indication of secondary cerebral symptoms caused me to not regard it as a malignant case. I increased my efforts as above described. This visit was made at about 10 A.M. At 3 P.M. her condition suddenly became worse, and the family sent for her husband who was at work in the mines. I was not notified of the change in her condition until 9 P.M. The messenger then failed

¹"American System of Obstetrics," vol. i, p. 420.

to inform me of the existing danger. He simply stated that she was no better and was suffering from severe pains in the stomach. At this hour I was very busy and sent her two tablets of sulphate of morphin, one-fourth of a grain each, and directed that one tablet be given at once and the other in two hours if she was not relieved. Should this fail to give her ease I was to be called. I was not summoned again until 5 o'clock the next morning, when I hurried to her bedside, as the messenger said he thought she was dying. When I reached the house I found the patient in profound coma, with stertorous breathing, respiration 22, and pulse 100, and feeble. I did not take her temperature. Her skin was of that characteristic dull yellow color, almost coppery, that accompanies the symptoms of cerebral origin. It was at this visit that I could see the fatal end. Her feet, legs, arms, and hands were very much swollen by this time, but had not been at my former visit. They continued to swell rapidly until death occurred. Both tablets of morphin had been administered during the night, as directed. From the husband I learned that she suddenly became unconscious about 9 P.M., and was quite delirious for a short time, then falling into a deep sleep, and from that hour until her death, which occurred January 21st at 2 P.M., seventeen hours later, she never spoke nor moved a muscle, being in profound coma. I made another visit at 11 A.M. and found her in about the same condition as at 5 A.M., except that she was almost pulseless. Every muscle remained as if paralyzed. When the hand or foot was raised it would drop lifeless on the bed. A dark fluid, similar to coffee grounds, was flowing from her mouth. The family told me this had continued for some hours, and they were confident that at least a pint of this fluid had been discharged. It continued to flow until her death. There was no discharge from the vagina until a short time before she expired, and this consisted of a small quantity of dark bloody fluid.

CASE II.—Mrs. T. D., aged twenty-four years, had had one abortion one year before. When I saw her she was eight-months' pregnant. On January 25, 1898, I found her in bed suffering from a well-marked case of icterus. She complained of general soreness and pain in the region of the stomach. Her pulse was 88, and was quite feeble; temperature and respiration normal; urine scanty and high colored, and gave pain when voided. She had been vomiting freely the previous night. The vomitus was of a dark color, resembling coffee grounds. The bowels had moved four or five times during the night, and the discharge was of a dark color and waxy consistency. The husband had given castor oil the day before. I ordered hot baths and gave her phosphate of soda, with a diuretic. She had a ravenous appetite but nothing would remain on her stomach.

On January 26th, in the early part of the morning, she was confined. I was called at 6 A.M., but before I started a second runner came and said that I need not go, so I did not reach the patient

until 3 P.M. I found that a female child had been delivered by a midwife. It was very much jaundiced, and was quite a puny looking object, at the end of thirteen days weighing only two and a half pounds. It did not seem to have strength to nurse, and lived only about six weeks. The midwife stated that the patient had the easiest labor she had ever witnessed; that the child was born with one or two pains. The placenta came without delay or difficulty. At 3 P.M. her pulse was 110, and feeble; her temperature, 98.7° F., and her respiration normal. The jaundiced condition had increased very much since the day before. Her appetite continued ravenous, but the vomiting persisted. Her bowels moved once during the night and I was informed that the passage was still dark and waxy. She complained of pain in the stomach and of being drowsy. On January 27th I saw her at 1 P.M., and found her unconscious and very delirious. Her pulse was 92, still feeble; her temperature, 97.8° F., and respiration normal. Her face was considerably swollen and her feet and hands were beginning to swell. Her husband said she continued to vomit the black material until 2 P.M., when she became unconscious and did not vomit any more during her sickness. She was continually grinding her teeth and had been since she became delirious. During the previous night the family thought she had two "spasms." Twice during the night there was involuntary discharge of feces and urine.

On January 28th I visited her at 1 P.M. She was still unconscious. Pulse 110; respiration normal. I did not take her temperature, having broken my thermometer. Hands, feet, and face still swollen. There was much eructation of very offensive gas. Her bowels had not moved since my last visit. She was still grinding her teeth. She would take water, milk, or medicine into her mouth, hold it for a short time, and then spit it out, refusing to swallow. She did not recognize any one during the day, when aroused. On January 29th at 11 A.M. her condition was practically the same. During the night her attendants succeeded in getting her to swallow some of the medicine and a little milk. The bowels were still locked, but there had been involuntary discharge of urine. Pulse 104; respiration normal. January 30th, 2 P.M., patient remained about the same until early in the morning, when all at once, without being spoken to, she awoke from her stupor and recognized several of her friends. She spoke only with great effort, but took her medicine and food nicely from this time on. She complained of pain in the region of the stomach. The bowels and kidneys acted normally. Pulse 120; temperature 99.8° F.; skin still very yellow. January 31st, 10 A.M. Patient somewhat improved. Pulse 120; temperature 98.6° F. The pain in the stomach continued; her speech was very slow and labored. February 2d. Patient's condition much improved. Pulse 98; temperature 97.6° F. Bowels and kidneys acting normally; skin clearing up. She talked and laughed with comparative ease. Tongue becoming clean; no pain; appetite returning. February 4th, 1 P.M.

I found the patient laughing and talking with friends. Skin clearing up nicely. Pulse 96; temperature 99.2° F. She said that she felt perfectly well but that the previous few days were a blank in her memory. Appetite good; bowels and kidneys acting well; swelling had about left her face, hands, and feet. February 7th, complete recovery.

CASE III.—Mrs. J. D., aged twenty-four years, married seven years; had had two children and one abortion; three-months' pregnant. I was called to see her January 28, 1898, and found her suffering from simple jaundice. I prescribed hot baths, light diet, and diluted muriatic acid, 15 drops in half a glass of water, three times a day. Within ten days she was practically well.

In reporting these cases of icterus, one simple and two malignant in form, I have not attempted to present anything new, but the disease being of such rare occurrence, and one of the patients suffering from a malignant attack having recovered, I have thought the report of enough interest to serve to refresh our minds in regard to this rare yet dangerous complication of pregnancy.

CLINICAL MEMORANDA.

CLINICAL NOTES FROM THE U. S. GENERAL HOSPITAL, FORT MONROE, VA.

By DONALD MACLEAN, M.D., LL.D.,
MAJOR AND CHIEF SURGEON OF DIVISION, U. S. V.

IN a brief communication to the MEDICAL NEWS published July 30, 1898, in reference to affairs at this hospital, I promised information as to the result of the case of subclavian aneurism produced by a Mauser bullet. The patient suffered severely and grew gradually weaker. His father, a most intelligent man, came here from Tennessee and I took the utmost care to explain to both him and his son the true state of the case, namely, that the only chance for relief consisted in an operation, which held out a very slim chance of success, but *the only one*. I left the decision to themselves and before long the father came to me with the statement that both he and his unfortunate boy had decided to accept the chance of operation, which they had been frankly informed was a desperate one. Consequently I operated next day with the forlorn hope that the wounded artery might be the left carotid and the wound within reach of surgical treatment. The heroic father stood by my side and took in the whole procedure. My object was to secure the artery before the patient bled to death. This proved to be impossible and the poor boy bled to death on the table. The afflicted father, who witnessed the whole terrible and shocking scene, expressed himself as perfectly satisfied with our loyal efforts to save his boy and uncomplainingly accepted the melancholy result. Not only so but he most readily consented to any examination of the body which we wished to make.

We found, first, a long, irregular wound of the left subclavian extending almost to its origin. Second, a fracture of the transverse processes of the sixth and

seventh cervical vertebræ. Third, fracture of the first rib. Fourth, fracture of the body of the scapula, through which the Mauser bullet had passed on its course to the surface. Notwithstanding the tragical nature and result of our efforts to save the life of this youthful hero we fail to discover any reasonable grounds for personal reflection or surgical condemnation. It was the only chance and we did all that could be done.

My friend, Dr. W. P. Chamberlain, First Lieutenant and Assistant-Surgeon, U. S. A., has kindly furnished me with notes of the following cases to be used as I think best:

H. S. H., aged twenty-eight years, private, Co. C, 22d U. S. Infantry, on July 17th, stated that he strained his back in January, 1898. Pain at times ever since, with attacks of fever and chills, the last one occurring July 4th. Sent to this hospital from Siboney on transport "Breakwater" July 19th. Forenoon, back better; slightly feverish. Afternoon, pulse 90; temperature 105° F.; pain in the back and legs much worse. No nausea; no epistaxis. Physical examination negative. July 20th: Feels better. Temperature, 102° F. July 21st: Pain in back and legs worse, otherwise about the same. Vomited his medicine (quinin); pulse, 80; temperature, 104° F. at night. Physical examination, negative, except slight enlargement of the spleen. Urine contains distinct trace of albumin. Patient was placed in a separate ward as a suspected case of yellow fever. July 22d: Less severe pain in back and legs; bowels moved with mild cathartic. Temperature, 102.8° F.; pulse, 88; respiration, 40. More albumin in the urine. Isolated with immune nurse. July 25th: Suspicion of yellow fever changed to typhoid and he was returned to his original ward under charge of Dr. Chamberlain. He suffered from slight cough and occasional subsultus. Abdomen tympanitic and covered with an abundant crop of characteristic rose-colored spots. Fever continued high till August 4th and then gradually declined, reaching normal August 10th, where it remained. The rose spots remained till August 3d. The bowels continued constipated, the pain in back and legs severe. There was retention of urine, necessitating the use of the catheter, and the pulse became very weak at times. The treatment consisted mainly in cold baths, whisky, milk diet, and daily enemata. Since August 13th he has been on light diet and in a wheel-chair, and is now convalescent.

This case is interesting from numerous points of view, but especially because of the sudden onset, the high fever with pulse not correspondingly high, the severe pain in the back and legs, and the albuminous urine, all of which, taken together, strongly suggested yellow fever in the case of a patient coming from an infected port.

Eleven men were afflicted with sunstroke, occurring in the vicinity of Santiago, except one, which occurred in Charleston. All were attended by loss of consciousness for periods ranging from five minutes to three hours in length. On recovery of consciousness all were suffering from severe headache, usually frontal and throbbing in character, except in the last case, in which the patient complained of a great feeling of pressure over the vertex.

About half the men complained of fever and nausea after becoming conscious and about the same proportion had visual troubles, usually darkening of vision or seeing streaks in the air. All had vertigo and ringing in the ears. Very severe headache lasted for periods varying in length from five to eighteen days. One month after the sunstroke about half the men were free from headache if in the shade, but all had severe headache come on upon exposure to the sun, in most cases associated with nausea and vertigo. Several of the patients were very nervous and were troubled with insomnia. Only one showed any mental change. His chief complaint was that his head felt "funny." He wore a startled, somewhat wild expression, and at times talked as if insane.

Injuries to Skull or Its Contents.—The following cases are of interest to compare with those of sunstroke:

B. S. H., aged twenty-four years, private, Co. F, 16th U. S. Infantry. Superficial perforating Mauser-bullet wound of scalp one inch above and behind the left ear. Track one and one-half inches long. Exit and entrance one-fourth inch in diameter and healed when first seen. Slight induration of track. No depression of skull. Occurred July 1st near El Caney. Patient lost consciousness for one-half hour and on recovering was bewildered, dizzy, and had severe frontal headache for eighteen days. Now (August 3d) is troubled with insomnia and slight vertigo on exposure to sun. Hearing normal in both ears. Thinks vision not quite as good as formerly in left eye. Has very slight ptosis of left upper lid.

W. P. H., aged twenty-eight years, private, Co. G, 12th U. S. Infantry. On July 1st a shell exploded within a few feet of him and he lost consciousness during half an hour. On coming to, blood was running from his nose, and on the following day he spat blood. Cough and spitting of blood at times ever since. Examination of throat and chest negative. Ever since has been extremely nervous and has a marked tremor of hands and limbs. Has ringing in ears, vertigo, and headache at times, aggravated or brought on by exposure to sun. Vision and hearing normal.

H. J., aged forty-two years, private, Co. F, 10th U. S. Cavalry. On July 1st shell exploded near him causing loss of consciousness for two hours. On coming to had severe headache and was deaf. Blood flowed from left ear. No epistaxis; no vomiting; no trouble with vision. August 2d: Has had dull, throbbing pain nearly ever since accident, confined to the left side of the head, running from occiput to external auditory meatus. Headache much worse on exposure to the sun. Hearing is much impaired in right ear and almost entirely destroyed in left. Little improvement in hearing or headache since arrival here.

K. B., aged twenty-one years, private, Co. I, 3d Kentucky Volunteers. Mother and father died of consumption. A brother and sister have cough and are called "scrofulous." Three brothers well. Three sisters and one brother dead, cause unknown. Never sick till present time. May 1st took cold, coughed, and was feverish for a week. Pain in left chest. Cough ever since. Has been on duty all the time but breath has been short.

Dyspnea and cough on lying on right side. No fever. No chills. Measles began one week ago and entered hospital for that disease. August 15th rash of measles on face and chest. Much conjunctivitis. Brown coat on tongue. Left side of chest more prominent than right and moves less on respiration. Apex-beat of heart two inches to right of sternum. Percussion-note everywhere flat over left chest. Treube's semilunar space obliterated. Cardiac dulness two inches to right of sternum. Auscultation shows absent voice-sounds, diminished vocal resonance and tactile fremitus on left side. Respiration exaggerated on right. Cardiac sounds clear. Abdomen negative. Urine normal. Aspirated and one and one-half pints of creamy pus drawn off. After this operation cardiac dulness one inch to right of sternum. No resonance above left clavicle or scapula. Pus creamy and no odor. After being stained it showed decomposed pus-corpuscles and a few oval organisms in pairs. An agar-culture after twenty-four hours showed an abundant growth of oval organisms in pairs (diplobacillus) and a few large bacilli (probably a contamination).

August 16th: Under chloroform anesthesia an incision was made down to the seventh rib in the posterior axillary line, three and a half inches of the rib resected, about two quarts of pus evacuated, and a large double drainage-tube inserted. Six hours later the patient was perfectly comfortable. Cardiac dulness to right of sternum has disappeared; has continued to make rapid improvement, and appears to be thoroughly convalescent.

CALCULUS PYELITIS WITH PERINEPHRITIC ABSCESS. NEPHROTOMY; DEATH AFTER TWENTY-SEVEN HOURS.

BY H. H. STONER, M.D.,
OF ROCK RAPIDS, IOWA.

MRS. H., aged twenty-seven years, married, of spare physique, had suffered during five or six years from vague pains in the abdominal region. Several times in the early history of the case she suffered from severe colicky pain, which was not diagnosed, or relieved by remedial measures. From the beginning of her ailment until June 1, 1898, she continued to perform her duties as housewife, the last two years of which were arduous. At this date she began to suffer from irregular fever, followed by profuse sweating but no rigors. Her temperature would sometimes rise to 103° F. during the afternoon, dropping to normal the next morning. At about this time she observed a tumor in the right hypochondrium.

The case came under my observation on August 6, 1898. Her family history was negative. The following condition was noted: She was weak and anemic; the heart beat was 116 to 124 per minute, and her afternoon temperature varied between 101° and 102.8° F. She also had profuse night-sweats. The facies portrayed unmistakably the presence of septic absorption. There was a sensitive tumor, about as large as a child's head, occupying the right hypochondrium two inches to the right of the umbilicus and two and one-half inches below the right

costal border. Percussion elicited dulness over the whole area of the tumor. There was a marked line of resonance between the tumor and ribs, which eliminated the possibility of its being connected with the liver. It moved with the diaphragm during respiration, although it was but slightly movable on palpation. There was an area of dulness on percussion in the right lumbar region, extending from the eleventh rib to the ilium and from the median line half way to the axillary line. An impulse applied to the loin was conveyed to the tumor in front. The urine was scanty, being about 16 ounces in 24 hours. It was highly acid, its specific gravity was 1030, and it was loaded with pus.

The diagnosis lay between tuberculosis of the kidney and renal calculus with pyelitis. That she was suffering from pyemia connected with a suppurative condition of the right kidney was evident. As an operation offered the only hope of relief, it was proposed and accepted. She was placed upon tonics for about ten days with the hope of improving her general condition, but without material success. She was, therefore, prepared for operation with the usual antiseptic precautions on August 20, 1898. She was placed in a semi-prone position with a sandbag placed beneath and pressing against the abdominal tumor. A transverse incision was made, beginning at the edge of the erector spinæ muscle, parallel with and one and one-half inches below the twelfth rib, which was supplemented by a longitudinal incision beginning at the lumbar end of the transverse one and continuing parallel with the erector spinæ muscle to the twelfth rib. This gave ample room for inspection of the deeper parts. The peritoneum was exposed in the outer extremity of the transverse incision. This was isolated with gauze, and a perinephritic abscess evacuated of about ten ounces of pus. The tumor proved to be the dilated right kidney which was tense and gave a vague sense of fluctuation. An aspirating needle was passed into the posterior surface of the kidney in the direction of the pelvis, and after traversing half an inch of kidney substance passed into a cavity from which thick, foul-smelling pus was aspirated. Upon manipulation within the pus-cavity the point of the needle came upon a stone within the pelvis of the kidney. A slender-bladed knife was now passed alongside of the needle and the incision dilated with the finger. The amount of pus evacuated from the kidney was estimated at sixteen ounces. At the bottom of the cavity and within the dilated pelvis of the kidney were three calculi, aggregating in weight 130 grains. The two smaller were easily extracted with forceps, but the largest, weighing 90 grains was embedded in the calices of the kidney and was removed with much difficulty. Owing to the adhesions and enlargement of the kidney it was thought best to establish drainage with a view of doing a nephrectomy later, if it became necessary. Therefore, after thorough irrigation with 1 to 5000 bichlorid solution, a rubber drainage-tube was placed in the bottom of the perinephritic abscess-sac, and a larger sized tube placed in the kidney cavity, and the wound closed.

During the operation the patient was twice given one

and one-half pints of normal salt solution by subcutaneous injection. She was placed in bed in fairly good condition. Immediately after the operation urine began to escape from the affected kidney and continued to do so until 11 P.M., ten hours after the operation, when the patient began to suffer severely from shock, and the kidney ceased to perform its function. From this time on, in spite of stimulation, subcutaneous injections, external heat, etc., shock became more profound until she died, at 3 P.M., August 21st.

Except in cases of solid tumors of the kidney, and occasionally hydronephrosis, tumors of the kidney sufficiently large to be palpable through the abdominal parietes are seldom encountered. Sarcoma frequently produces a tumor whose manifestations are almost wholly confined to the abdominal region. Hydronephrosis sometimes assumes a degree of magnitude sufficient to distend the abdomen. For a purely pyemic process the size of this tumor is certainly interesting. Calculus pyelitis seems to have a peculiar predilection for the female sex, and an explanation of this may be found in the mobility of the uterus which, by its intimate connection with the bladder produces intermittent traction on the uterus, which by inducing a certain amount of inflammation in the pelvis of the kidney causes a secretion of mucus, by which a few crystals of the solids of the urine are cemented together, and the nucleus thereby formed for a future calculus. Or pregnancy, by pressure of the gravid uterus upon the ureters, may interfere with the flow of urine and induce hydronephrosis, which condition would be favorable to the development of renal calculus.

While it is true that many patients with nephrolithiasis go through the course of the disease with little suffering, yet this patient, except during the incipency of the case, was more than ordinarily free from pain. She carried a stone in the kidney five or six years, a greater portion of which time she had pyuria, but not until septic absorption became pronounced did she awake to the fact that there was something radically wrong, and set about seeking relief from her condition.

MEDICAL PROGRESS.

The Disposition to Hernia and the Treatment of It.—KOCHER (*Correspondenz-Bl. f. Schweiz. Aerzte*, June 15, 1898) says that the disposition to hernia, about which opinions still differ so widely, is the most important point in the whole subject. Some writers claim that whoever develops a hernia must have had a previously formed peritoneal pouch in that situation, which by repeated pressure is gradually converted into a hernial sac; others are content to say that there was a congenital weakness of the fibrous layers, but no preformed peritonic pouch, and yet others assert that every hernia develops in a well-formed congenital hernial sac, and that at the time of its occurrence some portion of the abdominal contents pass into the sac, thus separating the walls which before lay close upon one another.

That an anatomical disposition to hernia exists in many persons is shown by the fact that even in adults there is

often found in the inguinal canal and elsewhere such a peritoneal pouch as is above referred to, but which, except for some accident, remains empty; this is, however, not a hernia, any more than an adipocoele in the inguinal canal is a hernia, though they both favor the development of one. It is often advantageous, now that the mortality from operation for rupture is so slight, to suture at the time of operation for inguinal hernia a weak inguinal canal, if such exists, on the opposite side to the already developed hernia. Such a disposition to hernia is manifested by a pouching forward of the canal upon coughing. The form of such a pouch is usually oval. Direct observation in such cases has shown that the disposition to hernia does not show itself, as was formerly stated, in the form of a small sac gradually pushing its way down the canal; but, that by the abdominal pressure, the peritoneum is pushed over Poupart's ligament in a rounded oval or conical process. The transversalis fascia remains at the internal abdominal ring, and the deep muscular layers are pressed apart to afford room for exit. The internal ring is also enlarged laterally, the epigastric vessels and the ascending ligamentous fibers being stretched and pushed toward the median line. The anterior wall of the canal is naturally stretched, and its fibers more or less separated. If the resistance offered by the external ring is greater than that of the canal itself, an interstitial hernia results. This is quite different from a properitoneal hernia, one which lies between the parietal peritoneum and the posterior surface of the abdominal wall.

While it is beyond a doubt true that a congenital hernia is due to the insufficient closure of the neck of the vaginal process of the peritoneum, one errs in attributing all herniæ to this anomaly. A congenital hernia can be recognized at operation by the fact that the testicle lies in the hernial sac, or that a combination exists with hydrocele of the cord, or that from the lower end of a closed hernial sac there extends along the cord a process reaching down to the tunica vaginalis containing often one or more cysts.

At operation it should be the aim of the surgeon to cure not only the hernia, but the disposition to the same, which according to Wood is a congenital sac in about one-third of the cases; and according to Roser is an adipocoele in a large proportion of cases; and according to Berger is often a congenital weakness of the wall. Hence, his term "*hernie de faiblesse*." In almost every instance there will be found to exist one of these three conditions.

For a fully developed hernia, Kocher considers his own operation the simplest and most satisfactory in its results; while for conical peritoneal pouches he advocates Bassini's method of treatment.

THERAPEUTIC NOTES.

Keloid and Intractable Inflammatory Patches Cured by Scarification.—LAWRENCE (*Brit. Med. Jour.*, July 16, 1898) twice excised a keloid of the right forearm of a man aged forty-six years. Each time it recurred as large

and as painful as before. Though not at all confident of success, he was led by the discomfort which the growth caused the patient to make a further attempt to cure the trouble. With a five-bladed scarifier, the blades being one-twentieth of an inch apart, he made criss-cross incisions into the keloid and surrounding skin until the whole area was thoroughly cut up into squares, 400 of them to the square inch. Bleeding was encouraged by the application of hot boracic-acid dressings, and later the wounded area was dusted with iodoform and dressed with zinc-glycogelatin, and a piece of rubber tubing four inches long and three inches in diameter was applied to give continuous pressure. This was held firmly in place by strips of plaster, which did not entirely surround the arm, and thus did not interfere with the venous return. The dressings were twice changed at intervals of two days, and pressure with the rubber-pad was kept up for several months. During this whole period the scar was thin and pliable, and gave no pain. The pressure was then discontinued. Six months later the cure was still as complete as ever.

The same method of treatment has been employed with success by the writer in chronic patches of eczema, edematous lupus erythematosus, chronic patches of non-apparent catarrhal inflammation of the skin, with marked irritation as left after a general eczema, patches of chronic traumatic dermatitis, and intractable patches of chronic lichen planus. The incisions in these cases should be superficially made, and the blades of the instrument in all instances should be at least one-sixteenth of an inch apart, otherwise there is danger that some of the squares of skin will be torn away.

Salicylate of Nicotin for Scabies.—WOLTERS (*Rev. de Therap.*, September 15, 1898) recommends the use of salicylate of nicotin in the treatment of scabies. The drug occurs in fine white crystals readily soluble in water. These are ground and made into an ointment containing $\frac{1}{10}$ per cent. of the active principle. Lanolin makes a good base to the ointment. Of sixty-seven patients upon whom this treatment was tried sixty-four were cured by a single application. The remaining three were greatly improved, but it required several applications of the salve to destroy utterly all the parasites. Three patients returned after a certain time complaining of a recurrence of the disease but investigation showed that there had been re-infection from an external source. This ointment was most agreeable to the patients, being invisible, odorless, and unirritating. There were no symptoms of intoxication in any instance.

Vasogen as a Vehicle for Iodin.—FRIEDLAENDER states that iodine is rapidly absorbed through the skin and mucous membranes when it is mixed with vasogen (oxyvaselin). It is used in the strength of 6, 10, or 20 per cent. of iodine, generally 6 per cent. Its use is advised for various ills, such as sciatica and intercostal neuralgia, ulcer of the leg, enlarged glands, blenorrhagia, epididymitis, and in gynecology for cervical ulcer, and parametritis.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed *exclusively* to THE MEDICAL NEWS will after publication be liberally paid for (accounts being rendered quarterly), or 250 reprints will be furnished in place of other remuneration. When necessary to elucidate the text, illustrations will be engraved from drawings or photographs furnished by the author. Manuscripts should be typewritten.

Address the Editor: J. RIDDLE GOFFE, M.D.,

No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	\$4.00
SINGLE COPIES10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in registered letters.

LEA BROTHERS & CO.,

NO. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANBOM ST., PHILADELPHIA.

SATURDAY, NOVEMBER 12, 1898.

THE visit of Mr. William Antivaccinationist Tebb to this country should not be allowed to pass unnoticed, particularly as he is here to propagate the antivaccination craze. We have no doubt that if he expends one-half the energy and money here which he and his deluded fellow-workers have spent in England, such outlay will be rewarded by a considerable following, particularly if he operates in the hysterogenic zones of eastern New England, and in those portions of Canada in which mental compulsions and obsessions are endemic. The annals of spiritualism, faith cure, Christian science, osteopathy, and antivivisection, not to speak of the innumerable religious and mystic cults and other psychoses that have taken root here during the past half century, portend a warm reception to any fad, particularly if its understanding surpasses reason, common sense, and science.

Mr. Tebb believes it to be his mission to start an agitation in this country against regulations of health boards which make it necessary for children to be vaccinated before they can enter the public schools, and also against the Federal law requiring all immigrants to be vaccinated. Furthermore, he

plans to hold the next International Antivaccination Congress here, the object being to enlighten the public concerning the evils of vaccination. Mr. Tebb avers that he has in his possession pictorial proof that the health of some immigrants has been injured by vaccination. Poor immigrants! Poor Mr. Tebb! We commiserate you, Mr. Tebb, and trust that the burden of these proofs is not greater than you can bear. We must inform you, however, that deeply rooted in the minds of the American people is a conviction which reads: "You can fool some of the people all the time, and all of the people some of the time, but you can't fool all the people all the time."

DR. STUART TIDEY of London, in a letter to the *British Medical Journal*, October 22d, describing a visit to the Hospital of San Giovanni, at Turin, Italy, says: "What I wish most to record was the discovery there, worked out in the concrete form of mechanical and physical contrivance, of a method of treatment which I had hitherto believed was especially my own. On entering the laboratory I saw an apparatus for the preparation of some gas, and on asking the professor (Carlo Forlanini) its use, he said: 'It is for the evolution of nitrogen to inject into the pleural cavity and compress the pulmonary parenchyma in unilateral tubercle of the lung.' 'What results have you obtained?' I asked. 'They all get well,' he replied. I then asked the professor if he knew that his method was being practised in America. 'No,' he replied, 'I have practised it for ten years and they must have gotten it from me.' He told me further that when the diseased portion of lung had healed the healthy portion expanded and reoccupied the space from which the nitrogen gradually disappeared." It thus would appear that Murphy's injections into the pleural cavity had been anticipated.

EVADERS of the law are notoriously fertile in resources which save them from its grasp. Oftentimes they are so clever that despite the perniciousness and iniquity of their purpose their shifts compel a sense of admiration. We are prompted to these remarks by the receipt of a sheet bearing the pretentious title "United States Health Reports," and the subtitle "The American Authority on Matters of

Health, Sanitation, and Hygiene," stamped on a streaming banner clutched in the mouth of an American eagle, which is perched on a staff flying the American flag; all of which gives the sheet an appearance of authenticity and officialness, qualities which, no doubt, the perpetrators of the reports would have the unsuspecting reader believe it possesses. The leading article is entitled "A Model Home for Invalids," and as this was blue-penciled it was evidently intended that it should attract attention. We are glad to be able to meet half way in this respect its author, one Alonzo B. Carrier, M.D., a name unknown to us, and we venture to think also to fame.

The author introduces his subject by the very questionable statement that "In the treatment of diseases peculiar to woman, including the usual accompanying nervous manifestations, very much depends upon the environments of the patient." There is more in that simple statement, however, than a person who does not read further would suspect. The writer then goes on to say that for the protection of his readers and patrons who recognize his sheet as the American authority in all matters relating to health—God save the mark—that in response to inquiries concerning the general reputation and character of an institution conducted by Dr. —, No. — street, and the advantages claimed for his home for women ill or *in trouble*, he decided to investigate it. Dr. —, he states, is so thorough in his practice that he has become indispensable to his professional brethren, who frequently avail themselves of his services in delicate cases. Moreover, "Dr. — gives personal attention regarding any trouble ladies find themselves in, and insures absolute privacy, a *minimum amount of risk, with maximum benefit*." Alonzo B. Carrier, M.D., then draws his eulogistic article to a close, but not without saying that appointments can be made by letter or in person with Dr. —, and that he cordially extends to Dr. —'s home and method of treatment the unqualified editorial and official endorsement of the "United States Health Reports."

Although we have no fear that any reader of the "United States Health Reports" will not fully under-

stand the purport of Dr. —'s home and the endorsement of his method of treatment by Alonzo B. Carrier, M.D., we, nevertheless, feel it a duty to ourselves and to our readers to say a word concerning Dr. —, whose advertisement may be found in all the daily papers, and who is already well known in the police annals of this city. About eight years ago a young man of respectable appearance, a graduate of the Hahnemann Medical College of Chicago, and a son of a reputable clergyman, came to this city and opened an office in Lexington avenue. He made a few professional acquaintances, but depended for a clientele upon a card which he had inserted in all the daily papers, calling attention in an insinuating way to the success which he had "in getting ladies out of trouble." His business was soon very lucrative, apparently, for his horses and carriages were numerous, and every day he was to be seen constituting a conspicuous member of the fashionable throng that makes the east drive in Central Park its own, from three to five in the afternoon. Not content, however, with making such vulgar display of ill-gotten wealth, he must needs remove to a fashionable part of the city. That he might be within reach of the then most potent limb of the law, he leased a mansion next door but one to that of Inspector Byrnes.

The longest lane eventually has a turning. One morning the daily press announced the fact that a young girl had died from the results of a criminal abortion, and on her death-bed she swore that Dr. —, whose house and methods are now receiving the endorsement of the "United States Health Reports," had performed a criminal operation upon her. He was arrested, locked up, and eventually released under heavy bonds. The day of his release was the day of his disappearance. He fled, at least let us hope that he fled, and nothing more was heard of the matter for about two years. In the interval the city government underwent something akin to a revolution. The district-attorney's office was rehabilitated. Many indictments had been mislaid or were quashed, or something had transpired to make them no longer operative. And the quack came back.

This may or may not be at the present time a

wide-open town, but it depends entirely upon the interpretation put upon these words which have now come to have a very expressive meaning, whether or not it deserves to be so called. We venture no opinion. Despite this, however, it seems to us that we have called attention to one of the most nefarious, loathsome, abominable, and abhorrent advertisements that can possibly exist. Not content with advertising in the daily press in such an insinuating way that even a terminal dement would understand the purport of his words, here is an individual who, despite the fact that he has already been within the clutches of the law, is yet parading his infamy before the public under the guise of what he would have us believe is a legitimate journal established for legitimate purposes. We particularly call the attention of the County Medical Society to this man and his advertisements, and at the same time say to Alonzo B. Carrier, M.D., that he is either an accomplice or a stool-pigeon who is so highly perched on a pedestal of infamy that he will find great trouble in coming down even with assistance.

THE recent episode at Vienna brings bubonic plague into prominence once more and renews interest in the fact that it is still epidemic at and around Bombay. This would seem to indicate that the much-talked-of inoculations had been a failure, yet such does not appear to be the case. According to the *Times of India*, the experience with protective inoculations at Hubli is most satisfactory. The district contains 40,000 people, of whom about 35,000 have been inoculated to date.

By far the great majority of the cases of plague that have occurred have been among the uninoculated, despite their disparity in numbers to those inoculated. During the first week of September among 32,000 inoculated there had been but 69 cases of plague reported, while among 8000 uninoculated there were 417 cases. An ungrounded fear of the results of inoculation, a distrust of the foreign Christian medical men, that instinct of opposition to government which characterizes the lower classes in all countries and finally, and most important, religious scruples in the matter have prevented that universal application of inoculations in any one district that might furnish a striking proof of their protective power. We cannot help noting here in passing that

the British government is having a serious time of it regarding religious or conscientious scruples in the matter of the effort to protect her people against the ravages of contagious disease. While in India religious objections stand in the way of inoculations against plague, in England itself conscientious scruples are now an all-sufficient reason for the avoidance of the vaccination law. Verily, conscience seems to masquerade at both ends of the Empire under a mantle whose folds hang strangely like those which have clothed ignorant, obstinate superstition in all ages and climes. For this sort of thing in matters where public health is at stake, there should be no squeamish consideration dictated by a false conservatism and an undue regard for personal liberty and so-called religious prejudice.

FRACTURE OF THE SPINE.

AT the present day there is a growing tendency, based upon the successful results that have followed operative procedure in suitable cases, to operate in cases of fracture of the spine. Moreover, the class of suitable cases has been much widened by recent experience along this line, so that it includes most of the fracture-dislocations, the fractures of the neural arch, hemorrhage, and secondary inflammatory exudate. Outside of this class there must remain the severer injuries to the cord from overflexion and direct crushing by bone, in which total paralysis is instantaneous and complete division of the cord is the only explicable lesion. Operative interference will meet with most success in those cases in which the injuries involve the lumbar or lower dorsal region, and in which the operation of laminectomy is done immediately. Operative experience, furthermore, has demonstrated fully that cord degenerations from a continued pressure are rapid and that the higher the injury and the seat of operation the greater the danger.

The difficulties and the uncertainties of diagnosis are many. The considerations presented to the surgeon by such a patient are, first, the symptoms of the fracture of bone, crepitus, undue mobility, localized pain, loss of function and deformity, and secondly, the symptoms of paralysis. Any surgeon with experience knows that he is doing his patient the greatest possible harm if he attempts to elicit the crepitus or the undue mobility. He knows that lo-

calized pain and loss of function may follow a mere sprain; and it is a fact that some of those cases which show almost no deformity are the, now frequently recognized, fractures of the laminæ which give best results from operative interference. Nor is he given great assistance in his decision by the nerve symptoms, in view of the fact that the cord of an animal may be repaired after total division and certainly that of a man after hemisection. Furthermore, there are many reported cases where entire recovery or improvement has followed severe injuries to the spinal cord itself.

These points must lead to uncertainty as to the exact lesion present and in the light of the lessened danger from the operation, and the recent observations regarding the frequency of fracture of the neural arch there seems a justification for an exploratory operation in many of the cases. The experience of operators up to the present time has demonstrated beyond doubt that serious hemorrhage from the operation is not to be feared, that the loss of cerebrospinal fluid is without consequence, and that the removal of the spinous processes and laminæ from a number of vertebræ does not materially weaken the stability of the vertebral column. Some subjects improve rapidly and are cured, in others the improvement is slow and never complete, while some show no improvement whatsoever. Yet even a small percentage of cures or even of improvement is a sufficient justification for the operation, when a condition of actual pressure is relieved thereby; and this probability must be placed against a certainty that no improvement can follow a policy of non-interference. This probability of improvement gains force from the uncertainty that must always exist as to the extent of cord injury, and from the amount of repair that sometimes does follow a prompt removal of pressure. There are very few surgeons who would not advocate operation in a depressed fracture of the skull with cerebral symptoms. The indications for the operation under discussion must be the relief of pressure from bony parts, the evacuation of blood-clots causing pressure, the arrest of hemorrhage, and the correction of the deformity of the spine. The chief and practically the only indication is, in reality, the relief of pressure on the cord, to favor a re-establishment of function, and oppose secondary ascending degeneration.

As previously stated these remarks apply, more especially, to the lumbar and dorsal injuries, but there is no reason aside from the increased danger of operation why the same procedure may not be adopted in cervical fracture. The cervical region seems the one to which extension and manipulation is best adapted, yet this procedure possesses a forbidding danger to the patient from a possible sudden death during the manipulation. One reason for infrequent operation in former days was the conclusion that the crushing injury to the cord was in most instances caused by the sharp upper border of the body of the lower vertebra. Facts opposed to this are a displacement, less extreme, in most cases, than was formerly supposed; the frequency of the fracture of the laminæ as a pressure and destructive cause; and that the removal of a lamina in a marked displacement has been followed by improvement.

ECHOES AND NEWS.

The American Medico-Psychological Association.—The annual meeting of this society will be held in the city of New York on Tuesday, Wednesday, Thursday, and Friday, May 23 to 26, 1899. C. B. Burr, secretary.

Professor Braun's Twenty-fifth Anniversary.—An ovation was tendered October 14th to Professor Braun, the director of the Obstetric Clinic in the General Hospital, Vienna, on the twenty-fifth anniversary of his occupation of the position.

Sickness in the Camps.—At the hearing before the subcommittee of the War Investigation Commission at Harrisburg, Pa., it was claimed that the sickness among the soldiers was caused chiefly by the dainties which their relatives and friends sent them.

Spanish Soldiers Home.—The steamer "Montserrat," with 1788 troops from Cuba on board, arrived at Cadiz, Spain, November 2d. There were ninety-seven deaths on the voyage. Eight hundred of the soldiers were sick, and many of them in a dying condition.

A Plucky Doctor.—Dr. Trevor, the ship surgeon of the ill-fated "Mohegan" that recently struck on the "Manacles" off the south coast of England, escaped with his life but was rescued only after he had clung to the masthead of the vessel for about seven hours.

Professor Stricker's Successor.—Professor Phillip Knoll, the Professor of Experimental Pathology at the German University of Prague, is to succeed to the Chair of Experimental Pathology at the University of Vienna made vacant by the death of Professor Stricker last year.

Yellow-Fever Hospital at Santiago Closed.—The last and only remaining case of yellow fever in the yellow-fever

hospital at Santiago was discharged cured November 2d, and the hospital was closed. The total sick at Santiago November 4th numbered 1113; fever cases of all kinds, 613.

Death of Doctor O'Flanagan.—Dr. O'Flanagan, the author of a book called "Medical Men and Manners of the Nineteenth Century," which created quite a sensation in English medical circles some twenty years ago, died recently at Houghton-le-Spring, Durham, England, from meningitis.

The Fordyce Barker Memorial Bed.—Mrs. Elizabeth Lee Barker has given by will to St. Luke's Hospital, New York, \$5000 in perpetuity as a memorial to her late husband and their son, to be used for founding and supporting a memorial bed in the hospital, to be known as the Fordyce Barker Memorial Bed.

Guarding against the Bubonic Plague in Asia.—The commission charged with the duty of taking precautionary measures against the bubonic plague has engaged a staff of forty doctors, who will proceed immediately to Samarcand, Turkistan, where, as stated last week, there has been quite an invasion of the disease.

The Influence of Character and Right Judgment in Medicine.—Sir Dyce Duckworth, in an address with the above title, relates that Matthew Beattie once observed: "I am persuaded that the most successful treatment of patients will depend upon the exertion of sagacity, or good common sense, guided by a competent professional knowledge; and not by following strictly the rules of practice laid down in books even by men of the greatest talents and experience."

An Extra-State Consultant for a New York State Institution.—The announcement is made of the appointment of a Philadelphia ophthalmologist as consultant to Craig Colony for Epileptics, situated at Sonca, New York. Have we perhaps no New York ophthalmologists capable of filling the position, or is there some other equally good reason for going out of the State to find a consultant for what is practically a State institution?

The New Royal Member of the Profession.—Marie, the young Queen of Portugal, who has been known for some time to be engaged in the serious study of medicine, is now reported to have received her formal degree of doctor of medicine. Rumor adds that her first patient is her husband, whom she is treating for obesity, and that so far the new M.D. is satisfied with the results of the treatment. There would seem to be depths in connubial felicity, even beyond having to pass judgment upon the creations of a wifely dilettante in the culinary art.

Health of the Philippine Army.—The climatic conditions at Manila are changing for the better, and it is hoped that the advent of the dry season which is approaching will see a great improvement in the health of the troops. The surgeons' returns show about 1800 men on the sick-list, and the weekly mortality for the past month has averaged about eleven. General Otis has issued a general order

permitting the surgeons in charge of regiments or independent battalions to spend 30 cents per day for delicacies for each man on the sick-list. This will probably result in a reduction in the number of sick.

The Dress of Women Students of Medicine in St. Petersburg.—It would appear from an edict recently issued in St. Petersburg that the women students of medicine will hereafter be required to wear a distinctive dress. When they assembled at the beginning of the autumn session they found a notice conspicuously posted in the classrooms not only prescribing the color and cut of the dress, but also enjoining the purchase of the material at a particular establishment and the making of the garment at a specified place. This edict appears to have issued from the police instead of from the Education office.

"Posed as a Doctor to Wed a Pretty Girl." This is the line-heading of a pathetic story in one of the daily papers. The wooer won and wed the maid. After marriage everything went on happily until the bride learned her husband was really not a doctor. Then life was *not* "all one grand sweet song"; in short a separation resulted. He may have been a good husband in other respects; but he was not what she had married him for—a doctor. The story further tells that this pseudo-doctor "had money." Who could blame the young lady? Beats there the feminine heart which would not succumb to a combination so rare as a doctor with money.

Berlin Aroused about the Plague.—There has been considerable alarm in Berlin owing to the plague at Vienna, and the Government has deemed it necessary to allay popular anxiety by announcing that no experiments similar to those which led to the outbreak at Vienna are permitted in the Berlin laboratories. It is said, however, that private research for Asiatic cholera germs is proceeding in the laboratories of scientists like Professors Virchow, Leyden, Koch, and others, and the *Cologne Gazette* urges the Government, and justly, to take measures to prevent infection by requiring an official permit for such experiments, which, it is claimed, should be restricted to specially isolated buildings.

Smallpox in Cuba.—A report made to General Wood November 4th, by Captain R. S. Woodson, surgeon of the regular army, who accompanied Colonel Hood's six companies to Gibara, says there are more than 5000 cases of smallpox in Holguin and its vicinity, and several hundred at Gibara. The smallpox has continued uninterruptedly more than three years, the Spanish and Cuban authorities making little intelligent effort to overcome it. The form of the disease is most malignant and the recoveries few. The mortality is increased by the unhygienic modes of living. Captain Woodson advises sending no more troops till the epidemic is checked or the isolation of the sick accomplished. He established at Gibara a smallpox hospital with 150 beds, isolating 200 cases.

Sioux Indian Nurses.—At the Third Division hospital, Jacksonville, Fla., are a number of patients, who, when they are restored to health, can have the distinction of

saying that they have been nursed back to health and strength by the work of four sisters, who are direct descendants of some of the Sioux tribes of Indians of the Dakotas. These women are distinctively Americans and represent the entire order, of the Congregation of American Sisters, as it to-day exists in the United States. Only Indian girls are admissible to the ranks. The order volunteered to go to the front when the war broke out, with the end in view of following up the line of battle, and of taking care of the fallen and wounded on the battle-field, but it was only recently that their proffered services were accepted.

Treatment of the Insane in Persia.—An English missionary in Persia, in speaking of the backward condition of that land in nearly all directions of charitable and correctional effort on the part of the native population, says that there are no hospitals, no dispensaries, and no lunatic asylums. The harsh treatment of insane patients is thus described: "The dreaded lunatic is chained, his feet fastened in the stocks, is constantly beaten and half-starved, with the idea that if badly treated, the devil will the sooner leave him. And then, as a last resource, when the friends have grown tired of even this unkind care of their relative, the lunatic is given freedom in the desert. His hands are tied behind his back, and he is led out into the desert and is never heard of again. There are no homes for the blind and crippled, and none for the incurable in this land."

The Time When the Greatest Number of Deaths Occurs.—The time of day when the greatest number of deaths and births occur has been answered recently in the *British Medical Journal* by Professor Raseri, who has carefully investigated a large number of statistical reports for information bearing on the problem. With the statistics of 25,474 cases of death and 36,515 cases of birth, he has found that the maximum number of deaths occur between two and seven o'clock in the afternoon, while in the early hours of the morning there are the greatest number of births, and in the early afternoon the smallest number. The coincidence of the time of the maximum number of deaths with the hours when the pulse-rate and temperature are at their highest point in health, and when there is a febrile exacerbation in case of illness, has been offered as the explanation of this fact.

His Heart in His Boot.—In the *New York Medical Journal*, November 5, 1898, it is told how one of Sir Henry Ketchener's officers was shot above the left nipple and recovered from the wound. When his surgeon expressed wonder that the ball had not entered his heart he said it had not probably because his heart was in his boot at the time. This recalls a conversation which the writer had with Ex-Governor O'Farrell of Virginia, who, while a Confederate soldier in the Civil War, had been shot five times, and had received three sword wounds. One bullet entered just beneath the heart and came out at the back. Doctor Hunter McGuire attended him at the time. After the then Colonel O'Farrell's recovery, Doctor McGuire said he wondered how he had not been shot through

the heart. The Colonel said it must have been because his heart "was in his mouth" at the time.

The New Army Hospital at Savannah.—Twenty-one acres of ground has been secured for the hospital at Savannah, Ga., and it is said that the establishment will cover the whole tract, and be the largest hospital maintained under the auspices of the Federal government. The ground plan of buildings will be rectangular, with covered ways connecting all of the buildings with each other, and with the administration building in the center of the group. There will be forty-nine buildings in all. The cost of the Savannah establishment is to be \$150,000. The material used will probably be Georgia pine. The buildings are to be designed and constructed with a view to permanency. Each building will be ceiled inside and under the floors. Each of the four sides of the quadrangle will contain a ward capable of accommodating 250 single beds, with ample space between, making room for 1000 beds in all. One ward will be set aside for surgical cases, and an enclosed passage-way will connect it with a modern operating-room. Besides the general wards there will be private sick-rooms for the accommodation of invalid officers. The plumbing is to be of a permanent character, and the drain-pipes will be connected with the city sewer system. The artesian water-supply will be unlimited. The heating will be by means of coal base-burners. It has not been decided whether the lighting will be by electricity or gas, but both are immediately at hand. There is an ice factory within fifty yards of the site, and ice is 15 cents per hundred pounds by retail. The officers' quarters will be of two stories. The dormitories for the nurses and hospital corps will occupy two buildings. The chief surgeon will have a private residence.

Two Instances of Scientific Intuition.—One of the notes to Sir Dyce Duckworth's Harveian oration (as published in the *Lancet* October 22d) is of interest just now since the plague has come prominently before the public again: "Athanasius Kircher wrote in 1659, two years after Harvey's death, that 'the propagators of plague are little worms so small, fine, and delicate that they cannot be recognized by the senses.' It was left for the Japanese bacteriologist, Kitasato, to discover in 1893 the bacillus of plague." A passage quoted from Harvey's "Anatomical Exercise" (lvii) on the generation of animals affords an equally striking example of intuitive prevision on Harvey's part, respecting the reaction of the bodily tissues in inflammation. In it we have an anticipation of what is usually thought to be the most distinctly modern feature of the doctrine of inflammation. Referring to the effect of spider poison when introduced by a prick under the skin he wrote (translation ours): "The skin at once draws itself up into a prominence around the very spot where the puncture has been made and puts on, after a short time, the redness and heat of inflammation as if to gird itself for the combat and strengthen itself for the expulsion of the harmful agent." Sir Dyce Duckworth adds: "What have we here but a forecast of the modern researches of Metchnikoff and others upon the action of phagocytes in inflammatory foci? The idea

of a contest in the involved tissues was, I think, singularly prophetic of the histological discoveries to be made 230 years later and displays the intuition of Harvey in his study and interpretation of the secrets of Nature without any other aid than his simple vision."

SELECTION.

THE QUARANTINE STATION OF CAMARAN IN THE RED SEA.¹

THE committee on construction of the lazaretto at Camaran reported the result of its labors on March 17, 1898, and later presented a supplementary report at the session of the council held August 20, 1898. The basis of the report was a statement drawn up by Engineer Roulet under direction of Dr. Stieповich, secretary of the superior council of health, detailed for service at Camaran. This statement covered the work executed at Camaran up to May 25th of the current year. The work comprised six hospitals; 12 houses for persons of rank; 1 building for machinery, with 1 annex and accommodations for engineers, apparatus for distilling sea-water, ice-plant, steam saw, repairing-shop, etc.; 1 building for the accommodation of the personnel, officers, pharmacy, and for storage; 5 small houses for lodgings for guards; 1 water-tower with ice-house in its lower portion; 1 building to accommodate the steam plant, brick, tiles, plaster mill, and large storeroom; 8000 meters (about 6 miles) of railway laid; 2 cisterns cut in the rock and reservoirs with a capacity of more than 4000 tons; 2 conduits of fresh water which supply the cisterns; 1 conduit for supplying fresh water to vessels at the Mervani jetty; 1 conduit supplied from the wells on the main road, with cisterns and filters at the wells; 47 pavilions for latrines, with 24 sinks and 94 basins; 1 steam brick and tile plant with drying spaces; 1 plaster workshop with crusher; inclosed spaces for storage; lodgings for workmen.

The lazaretto of Camaran is arranged to receive 4000 pilgrims at one time, but the present buildings and those which it is proposed to erect will accommodate 6000. The following is a brief description of the work completed and in place:

1. A large structure which accommodates the inspector and physicians, and contains offices, a pharmacy, and a storeroom for supplies. It is a brick building on a stone foundation. On the ground floor are the offices, pharmacy, and supply department. Above, on the first floor, are the apartments of the inspector and the eight physicians, and the bathrooms. The building is surrounded by a veranda, forming a circular gallery 3 meters wide, on the ground floor and first story, and affording complete shelter from the sun. The plan of construction adopted secures perfect ventilation and prevents suffering from heat. To the northeast of the building is a pavilion containing latrines.

2. Five small brick buildings roofed with wood and

tiles, each being 9 meters in length and 4 in width. Two of these buildings are used, one as a workshop for the manufacture of cement blocks, the other for the manufacture of sewer-pipes. The first contains a hydraulic press, the second molds and models for tubing.

3. Machine house. This building is 25 meters long by 20 wide and 12 high. It is constructed entirely of stone, the walls being 0.80 and 60 centimeters thick. The roof is iron, covered with brick. Ventilation is so carefully provided for that the temperature in the sections containing the distilling apparatus is lower than in the offices. On the south side of the building is an annex, 10 meters long by 7 wide, containing a "mirrless" generator, a forge, and a repair shop. The machines are installed on the ground floor of the building, and comprise a refrigerating-plant, pressure-pumps, condenser, receivers for fresh and sea water, for use in condensing sulphuric acid, apparatus for the distillation of sea water (yarrand), a De-Naeyer generator, a steam-engine of 40 horse-power, a pump for feeding the two water-receivers, and a steam saw. All the plant is worked by a transmitter set in motion by the motor attached to the ice-plant. The kitchen opens on a wide and airy corridor. On the east and west fronts is a veranda 2 meters wide. On an elevation of 5 meters on the north front is a magnetic filter, through which water passes to the conduits. In the courtyard of the machine-house is a small structure to receive kitchen refuse.

4. A stone building constructed on a small hill overlooking the machine-house and serving as a water-tower and ice-house. It contains 8 reservoirs of fresh water of 140 tons capacity and an ice-machine of 60 tons capacity. The building is 16 meters long by 10 wide and the walls are more than 3 feet thick. All the buildings at Camaran are whitewashed as a protection against contact with the air, which would otherwise disintegrate the brick and stone.

The delegate of England, Dr. E. D. Dickson, protested against the establishment of a bacteriological laboratory at Camaran, not only on account of the expense which it would entail, but because in the present state of our knowledge of bacteriology a laboratory of bacteriology would in many cases furnish diagnoses at variance with the clinical symptoms observed and thus embarrass the regular course of restrictive measures in force at the lazaretto.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE NATIONAL RELIEF COMMISSION—HOSPITAL NOTES—MEDICO-LEGAL SOCIETY—SEMICENTENNIAL OF BUCKS COUNTY MEDICAL SOCIETY—ABSCESS OF LIVER; GALL-STONES—PORRO'S OPERATION—OBITUARY—HEALTH STATISTICS.

PHILADELPHIA, November 7, 1898.

PRESIDENT Converse and Secretary French of the National Relief Commission are going to Washington for a conference with Secretary Alger as to the future work of

¹ From advance sheets of the weekly report of the United States Marine Hospital Service. This quarantine station on the Red Sea in its completeness and substantial character might well be taken by our Government as a model for its quarantine establishments.

the commission, a feeling being prevalent that much of the work now being carried on by it properly belongs to the Government. The total contributions to date are \$78,405.40 and supplies to the value of \$40,345.00 with which a vast amount of good has been accomplished, supplies of all kinds being still forwarded to the camps even at this late date.

Hospital trains under various auspices continue to bring large numbers of sick soldiers to the city almost daily, but now that the Government is over its "rush" work, probably in the near future there will be a speedy diminution in the number of arrivals. An interesting phase of this hospital care of soldiers is the matter of compensation by the Government. As is well known compensation is to be made, but one of the hospitals most anxious for a large number of patients has been making, and with success, strenuous efforts to collect money from the public for this work. Right and left persons have been solicited and no efforts spared to induce them to help this charitable (?) work along. To the ordinary observer it seems a little queer to solicit help for the performance of work which is to be paid for by the Government and comments are freely made as to the impropriety, to say the least, of these methods.

The corner-stone of the Phoenixville Hospital, which has just been erected at a cost of \$25,000, was laid Saturday afternoon; it is of brick and Indiana limestone, with marble trimmings, and three stories high. Dr. M. W. Snell is to be resident physician with Drs. Rhoads and J. Chalmers Da Costa of this city consulting surgeon.

At the quarterly meeting of the Medico-Legal Society the following officers were elected for the ensuing year: Dr. E. V. Wheeler, president; Dr. A. M. Eaton, first vice-president; Dr. L. H. Adler, second vice-president; Dr. S. M. D. Peltz, treasurer; Dr. C. H. Clewell, secretary; Dr. J. D. Nash, librarian.

The Bucks County Medical Society celebrates its fiftieth anniversary last Wednesday at Doylestown, many good papers being read and a jubilee being held in the evening. The following officers were elected: President, Dr. O. H. Fretz; vice-presidents, Drs. R. C. Faulke and A. S. Wilson; secretary, Dr. A. F. Myers; treasurer, Dr. Frank Swartzlander.

Among the interesting papers read before the Philadelphia County Medical Society, October 26th, was a report on some abdominal cases by Dr. Mordecai Price. The first case, "Abscess of Liver; Gall-stones," occurred in a patient with a tumor, the diagnosis of which was obscure. After an incision had been made, the kidney was found to be normal and the gall-bladder empty, but the liver, which extended to the brim of the pelvis, was full of pus as determined by the insertion of a small hypodermic needle. Twenty-four gall-stones were removed, their presence in the liver being due probably to an ulcerated, overdistended gall-bladder which had caused the abscess and as this abscess enlarged, the stones were gradually forced from the gall-bladder into the liver.

The second case was a "Porro Operation at Term" in which a large fibroid in the birth-canal complicated labor.

Dr. Price is an enthusiastic advocate of Porro's operation, and, as in the case above, claims that both mother and child can be generally saved while Cæsarian section has a high mortality.

Dr. H. L. Williams reported to the Pathological Society two cases of "Accessory Thyroid at the Base of the Tongue," and Dr. Muehleck presented specimens of pyonephrosis from a case in which the clinical diagnosis had been typhoid, lobar pneumonia, and enlargement of the liver. Although Widal's reaction had been positive, the post-mortem showed no evidence of typhoid, nor was the liver enlarged.

Dr. Robert Lawry Sibbett died this week from paralysis at Fairfield. In 1873 the Medical Society of the State appointed him Chairman of the Committee on Medical Legislation, and to him is given much of the credit for the passage of the Registration Law. He was President of the Section on Obstetrics at the Ninth International Medical Congress, held at Washington in 1887.

The total number of deaths occurring in Philadelphia for the week ending November 5th, as reported at the Health Office, was 394, of which 82 occurred in children under 5 years of age. The total number of new cases of contagious diseases for the week was 280, reported as follows; Diphtheria, 89 cases, with 33 deaths; scarlet fever, 21 cases, with 2 deaths; typhoid fever, 170 cases, with 14 deaths.

MEDICAL MATTERS IN CINCINNATI.

[From a Special Correspondent.]

CASE REPORTS AT THE ACADEMY OF MEDICINE—THE NEW PRESBYTERIAN HOSPITAL—THE MIAMI VALLEY MEDICAL SOCIETY—GIFT TO THE CINCINNATI UNIVERSITY.

CINCINNATI, November 7, 1898.

THE meeting of the Academy of Medicine, October 31st, was devoted to case reports. Dr. C. R. Holmes presented a patient who had received a gunshot wound of the head. The ball had glanced from the orbital prominence, struck the sclera without lacerating it, and had lodged in the soft parts of the malar region. The internal structures of the eye were ruptured by transmitted force. Dr. Heidingsfeldt presented a patient with a birthmark who had been treated by the electric needle, and Dr. H. J. Whitacre a patient who had suffered from a ruptured middle meningeal artery, upon whom an operation had been performed.

Dr. C. A. L. Reed showed gall-stones from three recent cases. One collection contained 360 stones of uniform size and beautifully faceted. Another specimen had been removed from the common bile duct. The latter was of interest because of its unusual size. The stone was oval in shape and measured 2 cm. in its long diameter and 12 mm. in its short diameter. Dr. Edwin Rickets reported a case of pregnancy at term in a carcinomatous uterus, in which hysterectomy had resulted in death. Dr. Benjamin Lyle presented a specimen of aneurism of the aorta; also, specimens demonstrating two stages of the spontaneous healing of tuberculous deposits in the lung. Dr. E. W. Mitchell reported a case of sudden

death from angina pectoris. The patient had been a man of unusual health and vigor and never had suffered from symptoms referable to the heart previous to the attack of angina which came on two hours before his death.

The opening of the new Presbyterian Hospital on November 1st was a notable event in the professional and social circles of Cincinnati. The hospital is small, but in point of completeness and the utilization of every advance that hospital science has made in construction and furnishing is not excelled by any. The new structure was erected by Mr. and Mrs. Alexander McDonald as a noble gift to charity. It is located on Kenyon Avenue, directly in the rear of the Laura Memorial College for Women, and may be regarded as supplemental to the old hospital. It is a four-story and basement building of brick and stone. There is an elevator that is accessible from the sidewalk, and when a patient is brought in an ambulance he can be taken to it on the cot and thence to any floor. On the first floor are the chapel, clinical, and drug-rooms. Two free wards, male and female, occupy the entire second floor, and on the third and fourth are twenty-five private rooms. On the third floor are also the operating-room and X-ray compartment, with the latest machines. A special feature of the building is its plumbing, all of which is outside of the walls. Each of the private wards has been furnished by different people. The sun-room for convalescents is on the fourth floor. The building is fire-proof throughout.

The forty-second semi-annual session of the Miami Valley Medical Society was held at Loveland on November 1st, with a full attendance. The meeting was called to order at 10 o'clock in the Presbyterian church by the President, Dr. H. A. Beeson of Leesburg. Dr. J. C. Oliver of Cincinnati read a paper on "Cerebral Compression and Concussion." The paper was full of practical points on diagnosis and treatment. Dr. E. S. Stevens of Lebanon read a paper on "Collapse and Shock from Hemorrhage," Dr. Philip Zenner, by special request, one on the "Causes of Insanity," and Dr. F. W. Langdon one on "Treatment of the Insane."

Dr. R. Morris of Goshen and Dr. Tufts of Hartwell were appointed censors for the coming year. The Committee on Malpractice Suits reported in favor of asking for legislation requiring persons bringing malpractice suits to give security for the costs. The next meeting will be held at Loveland on the second Tuesday of May, 1899.

Mr. Asa Van Wormer has given a renewed stimulus to higher education in Cincinnati by a gift of \$60,000 to the Cincinnati University for the erection of a library building. The gift of a like sum by Mr. Briggs Cunningham a few weeks ago has enabled the university to add a much-needed left wing to the main building, a library alone being necessary to complete the buildings.

Dr. C. R. Holmes will remove his free clinic from his private hospital to the O. P. D. of the new Presbyterian Hospital.

The Garrison for Havana Province.—The commission appointed to locate camps for the garrison at Havana have recommended a location eight miles south of the city.

TRANSACTIONS OF FOREIGN SOCIETIES.

London.

THE STUDY OF DYSPEPSIA—PUERPERAL SEPTICEMIA TREATED BY ANTISTREPTOCOCCIC SERUM—THE ASSOCIATION BETWEEN MEDICINE AND SURGERY—MYOSITIS OSSIFICANS PROGRESSIVA—ERYTHEMA FROM AN ENEMA—SOME MOOT POINTS IN THE AFTER-TREATMENT OF CASES OF ABDOMINAL SECTION.

At the annual meeting of the Medical Society, October 10th, ALLCHIN read a paper on the "Study of Dyspepsia." The immediate causes of indigestion may be grouped as follows: (1) Errors in quantity or character of the food. (2) Diseases of the digestive organs, either (a) structural, (b) due to impaired nervous control or (c) abnormal blood or lymph-supply. (3) Improper bacterial action. (4) Defective absorption. (5) Abnormal intestinal excretory processes.

One of the chief difficulties in studying the subject is the fact that many totally different conditions give rise to similar symptoms. The use of the term "functional dyspepsia" is misleading, as there is always some structural defect. The speaker then took up one type of indigestion, the so-called nervous dyspepsia. The impaired innervation may be of the mouth, stomach, intestines, or associated glands, and the disorder of the nervous control may be of central origin, such as anxiety, hysteria, etc., cerebral tumor, meningitis, etc., or it may be of reflex origin, as from the kidneys, ovaries, etc., or, third, it may be that the nerves of the alimentary canal are irritated. The term nervous dyspepsia, therefore, does not denote a group of symptoms, but indigestion of nervous origin. Hence, there are no absolutely characteristic symptoms, and even by grouping symptoms the ascertainment of the cause of any case of indigestion is extremely difficult.

MAGUIRE laid stress upon the fact that an infant first digests only albumen, as the lactose and finely divided emulsified fat of milk are readily absorbed. At about six months of age carbohydrates are digested, while the power of digesting masses of fat is not developed until much later. In indigestion the powers last acquired are the first to disappear. The ability to digest fat disappears first, then the digestion of carbohydrates is disordered, while the ability to digest proteins continues unimpaired. The rational treatment of such cases is to put the patient for a time upon an exclusively albuminous diet. After improvement becomes manifest carbohydrates may be resumed with caution, diastase being given to aid their digestion. Acids, such as lemon-juice, may be given with fat to facilitate its digestion.

At the Obstetrical Society, October 5th, WALTERS communicated a paper on a case of "Puerperal Septicemia Treated by Antistreptococcic Serum." The uterus had been curetted and swabbed with antiseptic solutions, and for five days there was only slight fever. Then acute and violent symptoms of infection set in, and in addition to local treatment 10 c.c. of antistreptococcic serum were injected. The recovery which followed was con-

sidered to be due in no small part to the injection of the serum.

ROUTH said that it is difficult to say in any given case that the recovery is due to the injections. Out of five or six cases so treated by himself one patient had recovered as a result of the serum alone. He thought it very important to ascertain exactly the nature of the infection before injecting such a powerful agent.

ROBINSON said it would be practically impossible to determine so exactly the nature of the infection. He had examined several cases with only indefinite results. Out of 7 cases which he had treated with the serum, 5 of the patients had died, the treatment apparently having had no effect; 2 of the patients recovered; in 1 of these the only effect was that the patient seemed to sleep better afterward; in the other patient, who had on the eleventh day a temperature of 104° F. and a pulse of 120 and membranous vaginitis, the injections of the serum were followed at once by a fall of temperature and the patient rapidly convalesced.

CULLINGWORTH thought that as streptococci are usually present the serum ought to be given without waiting for bacteriological investigation. The safe rule of practice is to explore the uterus digitally with the finger under an anesthetic (decomposing debris should be removed by the finger, and reliance must not be placed upon the douche), and then administer the serum without delay. Phillips had administered antistreptococcic serum in several cases, but only in one was he certain that the patient's recovery could be attributed to its use. The patient had been for many weeks suffering from acute septicemia. Curettage had failed to produce benefit. Twenty injections were given in the course of twelve weeks. The temperature, which was very high, was always lowered, the delirium ceased and the skin acted, the effect lasting several hours. In this case repeated examinations of the discharges for streptococci gave a negative result. Tate had seen several cases treated by the serum, and in some of them the results appeared to be good. In one case the first injections were followed by improvement, but afterward failed to give relief. Possibly this case was one of mixed infection.

At the first meeting of the year of the Clinical Society, the president, MR. LANGTON, spoke of the "Association between Medicine and Surgery." At the St. Bartholomew Hospital in 1662 the governors had decreed that "the apothecary do not dispense any medicines except such as be ordered by the physicians." Later a relaxation was made, and the surgeons were allowed to order mercurials and purgatives. The topics which are discussed in both surgical and medical societies at the present time show in how many points medicine and surgery overlap. As an illustration he mentioned the treatment of gastric ulcer.

HERRINGHAM narrated a case of "Myositis Ossificans Progressiva." The patient, a girl now aged eight years, was attacked by rigidity of the shoulders when only two years old. This was the result of ossifications in the pectorals and latissimus dorsi. Subsequently the neck became stiff from ossification of the sternomastoids. At

five years of age swelling appeared in the back muscles which were attached to the ribs, probably of a fibrous character. At eight years of age the whole back was as rigid as a board. There were bony nodules behind the mastoids, and in the arms, fingers, and toes. There was a pencil of bone nine inches long in the right rectus abdominis. Skiagrams of the right shoulder showed that the joint was normal, the ossification being in the muscles alone. All the lesions of this disease are confined to the somatopleural layer of the mesoblast, and to the bones, periosteum, and connective tissue only. The pathology is uncertain. The trouble is congenital and not hereditary. Males suffer more often than females. There is no adequate evidence of any connection with rheumatism or rheumatoid arthritis. The view of Pincus that it is a form of new growth appears the most reasonable, and parallels may be drawn between this disease and multiple fibromata. The name is unfortunate, but may be retained until its pathology is more certain.

SPENCER regarded the disease as a congenital irregularity of ossification. In certain birds this condition occurs normally, the ossification extending into the tendons from the periosteum.

STILL read a paper on "Erythema Enematogenes (Enema Rash) in Children." This variety of rash is of considerable importance in children inasmuch as it may be easily mistaken for some of the specific fevers of childhood. The rash has a specific appearance and course as is evident from the study of the twenty-six cases which have occurred in the Great Ormond Street Hospital for children. There seems to be no reason to doubt the causal relation of the enema to the rash, as in some children the repetition of the enema repeatedly brought the rash. Their appearance is as follows: Within twelve or twenty-four hours after the administration of the enema a bright red patchy erythema comes out on the front of the knees, the backs of the elbows, the buttocks, and the face. In some cases the rash is scarlatiniform. There is rarely any constitutional disturbance and in one or two days the rash disappears. The amount of the enema or the time of its retention did not seem to have any influence in the character of the rash or the time of its appearance and disappearance. The length of time which constipation had existed did not seem to be of importance. It occurred most often after a first enema. It was more common in children over six years of age, but it had been known to occur in a child only two years old. The absence of pyrexia, of constitutional disturbances, of sore throat and coryza, and the peculiarities of the rash itself will serve to distinguish it from the rash in scarlet fever, measles, and röteln, with which it is most likely to be confounded. In some instances the rash is followed by desquamation, which adds to the difficulty of differentiating it from scarlet fever. There is some reason to believe that the "surgical scarlet fever" which occurs after an operation is often due to the enema which has been given before the anesthetic. There are three possible explanations of the occurrence of the rash: (1) The absorption of some toxic substance from the soap of the enema; (2) the absorption of fecal toxins which were dis-

solved by the enema; (3) a reflex effect on the vasomotor centers. The author inclined to the second of these possible causes as the most likely, though further investigation is needed to settle the question satisfactorily.

At the British Gynecological Society October 13th MARTIN read a paper on "Some Moot Points in the After-treatment of Cases of Abdominal Section." Complications should be avoided by care in the preparation of the patient and in the perfect hemostasis and asepsis of the operation. Interrupted sutures of silkworm gut passed through the whole thickness of the abdominal wall are to his mind the best form of suture. Wet dressings favor suppuration and powders form crusts. The dressings should be dry and light and the patient should not be confined rigidly to her back for forty-eight hours. The sutures should be removed about the twelfth day. He drains only in septic cases or where there is much oozing. A little clean blood does no harm. He advocated iodoform gauze as a drain in preference to glass or rubber tubes. It is better to drain through the posterior fornix than through the abdominal wall. A hypodermic injection of morphin is advisable immediately after the operation, as also in cases of great prostration and restlessness. He strongly recommended the purgative treatment of peritonitis, preferably by calomel and salines, and discussed the mechanism of their beneficial action. He advised the early administration of bland fluids after the operation; it is cruel and harmful to withhold fluids for forty-eight hours. In vaginal sections he said the vagina should be packed with iodoform gauze and this should be left in until the seventh day. It is unwise to douche for at least a week after the gauze has been removed for fear of forcing the vaginal discharges into the peritoneum. Lastly an abdominal belt should be worn for at least two years after every abdominal section.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK.

Stated Meeting, Held October 22, 1898.

THE President, DR. PALMER C. COLE, in the Chair.
The paper of the evening, entitled

OBSERVATIONS ON THE PROSTATE,

was read by DR. ROBERT H. GREENE. In 214 unselected cases of gonorrhea, taken one after the other as they came to the dispensary, Dr. Greene has carefully looked for evidence of lesions in the posterior urethra and prostate, and has made a careful examination of prostatic secretion after massaging the prostate through the rectum. Forty-five of the cases were first attacks, in 75 it was the second or some "numerically ulterior" attack. In the other cases this detail was not inquired into. In 142 cases, *i. e.*, in more than seventy per cent., careful washing out of the anterior urethra and examination of the urine passed afterward showed that the posterior urethra was involved, bladder trouble having been carefully excluded before making the test. In forty-seven per cent. of the cases there were some signs of prostatic involvement, and

an enlargement of the prostate could be made out through the rectum. In 73 out of 92 cases of palpable prostatic enlargement the left lobe was most markedly involved; in 19 cases the right lobe. In the prostatic secretion secured after massage of the prostate there were found microscopically, pus-cells, lymphocytes, leucocytes, erythrocytes, epithelial cells with eccentric nuclei, mucus, and corpora amylacea. The presence of lymphocytes points to the existence in certain of the cases of interstitial change. The subject has not been studied in sufficient detail, however, to enable one to determine in what proportion of cases this occurs.

The writer's conclusion is that the Creator did not make one law for man and another for woman as regards the persistence of changes produced in the genital apparatus by the invasion of the gonococcus. In the one sex, in a large proportion of the cases, permanent changes are induced, or at least lesions which run an extremely chronic course. In the other sex, it has been the custom to think that these enduring pathological processes do not occur, but the more study is devoted to the subject the more it is becoming clear that in man, too, the lesions produced are of the most persistent and chronic character.

In the discussion which followed, DR. RAMON GUI-TERAS said it was a matter of great interest to him to find in how large a proportion of uncomplicated gonorrheal cases prostatic involvement occurs. He considered that the normal sizes and shapes of prostatic glands in men differ as much as their noses. He has been surprised to find in how many cases careful rectal palpation gave anomalous shapes and sizes of the prostate. He was at first inclined to attribute this to congenital anomaly, but has concluded from some recent cases that the condition is often acquired. He has had occasion to observe the course of several prostatic abscesses which were followed by atrophy of the lobe of the prostate in which the abscess had been situated. In judging of prostatic involvement in gonorrheal cases where it was not a first attack, the possibility of these changes having been induced by the preceding urethritis or its sequelæ must be borne in mind. He had seen atrophy of prostatic tissue follow purulent processes that seemed to be localized in the epididymis or seminal vesicles.

In answer to a question from Dr. Whitman as to the most satisfactory treatment of gonorrhea at present in use, Dr. Greene said that certainly any method which assumes that the brunt of the attack in gonorrhea is borne by the anterior urethra is bound to be eminently unsatisfactory. As to the method by irrigation in certain quarters so popular, it is sometimes effectual in stopping the discharge and in seemingly freeing it from the gonococci at an early stage, but relapses are frequent and complications not rare. In the cases in which the infection is limited to the anterior urethra, and there is a certain number of such cases, it is definitely curative. But the older methods must be employed generally until our knowledge of the pathological process in gonorrhea and its mode of spreading are better known.

With regard to a special practical feature of prostatic involvement in these cases and its persistence, Dr. Greene

related a recent experiment with two patients referred to him because they had failed to pass examinations for life insurance. They were to all appearances perfectly healthy individuals, who to their surprise had been refused policies because of some pathological condition of their urine. The insurance agent found out that a few pus-cells had been discovered by the medical examiner in their urine and he absolutely refused to pass them. As they had been applicants to different companies and had been before different medical examiners, it is evident that a good deal of care is being exercised in the examination of urinary sediments. It is not at all improbable that a number of such cases will turn up, as there are others who still have some chronic inflammatory patches in their posterior genital apparatus, the result of early indiscretions, that may occasionally give off pus-cells. Since it would seem that medical insurance examiners have now learned to recognize a pus-cell when they see it more refusals than heretofore may be looked for.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, Held Wednesday, October 19, 1898.

The President, L. DUNCAN BULKLEY, M.D., in the Chair.

FIBROID TUMOR OF THE UTERUS; OVARIAN CYST.

DR. ROBERT A. MURRAY: These specimens are presented because in each case the history is unique. The fibroid was removed from a dwarf, four feet six inches high, aged thirty years. At the age of two years she began to menstruate and presented all the signs of maturity. Menstruation was normal and regular until six years ago when she began to flood. The flow was very profuse and lasted eight or ten days. She soon began to show the effect of loss of blood, became excessively nervous, and complained of pain in the abdomen. The tumor was not very large when first discovered. Operation was refused and the patient continued her work in one of the large dry-goods stores. Three years later it was found that another tumor had developed between the vagina and rectum and this caused such severe pressure symptoms that she could with difficulty attend to her duties. Still she refused operation. The flooding continued and her nervousness became intense, the latter being more marked as the menstrual period approached. During the last six months she became so weak from loss of blood that she fainted on several occasions and the condition of her nervous system was such that she had hallucinations and could not sleep without the aid of powerful hypnotics. Meanwhile large doses of ergot, hydrastis, and thyroid extract had been given without any appreciable effect upon the tumor, although the flowing was somewhat controlled by the fluid extract of hydrastis. Electricity, one pole on the abdomen and the other in the vagina, was also employed, with negative results. When the patient finally consented to let me operate I found this large tumor firmly adherent to the left side, and it was removed with great difficulty. Ow-

ing to its peculiar position and because of the fact that the pelvis was very much contracted, it was almost impossible to get at the arteries in order to tie them off, but I finally succeeded in doing this from below. Chromicised catgut was used for all ligatures. The abdomen was flushed out with hot saline solution and a quantity of the latter was also injected into the rectum. The abdomen was then closed in three layers, the peritoneum with fine chromicised catgut, the fascia with a running suture of catgut, and the fatty tissue and skin with silkworm-gut sutures. A dressing of sterile gauze was applied. No antiseptics were used during the operation. The wound in the vaginal vault was left open. The patient made a good recovery.

The second specimen is a very large cyst of the right ovary which I removed from a poor scrub-woman who found it very difficult to get employment on account of the large size of her abdomen. She was thirty-nine years of age, the mother of two children, and had ceased to menstruate four years previously. The cyst had rapidly increased in size during the past year. Upon opening the abdomen I found that the cyst was adherent to the under surface of the liver. After eight and a half quarts of chocolate-colored, ill-smelling fluid was evacuated the cyst was freed from its attachment to the liver and intestines and removed. The pedicle consisted of the ovarian ligament, all that remained of the Fallopian tube, and a portion of the broad ligament. The woman, who was extremely emaciated, made an uninterrupted recovery. The sutures were removed on the eighth day and the patient left the hospital at the end of the second week.

In connection with this last case I would like to mention a third in which there is some question as to the exact diagnosis. The patient is a woman, thirty-five years of age, married three years but never pregnant. She menstruated last on September 2d. Just at the time when the October period was expected she got caught in a shower and became thoroughly soaked. This was followed by all the signs of approaching menstruation but the flow did not appear. The patient considered herself pregnant. Upon examination a tumor was found in the pelvis which extends up to the umbilicus and down on the right to the spine of the ilium where it is firmly fixed. The mass also extends to the left side, although not so low down as on the right side. It is solid and absolutely immovable. The ovaries and tubes can not be felt. The cervix is large. There are no signs of pregnancy. The woman complains of but two symptoms, *vis.*, suppression of the menses and difficult defecation. The latter is probably due to pressure of the tumor on the rectum. The patient tells me that she had an attack of peritonitis at the age of seventeen. The family history is bad, her mother and sister having died of cancer of the uterus. The history of the case does not point to fibroid tumor.

DISCUSSION.

DR. J. RIDDLE GOFFE: The speaker should be congratulated upon the success in spite of the many difficulties attending the removal of the fibroid in the first case. The kind of ligature material to be used in these opera-

tions is an interesting point. I am very glad to hear that Dr. Murray is using catgut. I have been using it myself for some years—not chromicised but ordinary catgut, as put up in alcohol by Van Horn & Co.—for all work in the pelvis and also in removal of the uterus per vaginam. The advantage of catgut is that it is absorbed without occasioning any irritation, does not become encysted as silk does, nor burrow around and make a fistula.

The question of the best method of sewing up the abdominal wound is also interesting. For the last few years I have been using through-and-through silver wire sutures, as practised by Marion Sims years ago at the Woman's Hospital, and I find that I get better results and fewer herniæ than when I used to close the abdominal wound in layers. Moreover it is more quickly done.

ASCENDING OPTIC NEURITIS OF PROBABLE SYPHILITIC ORIGIN.

DR. ROBERT H. GREENE: At the May meeting of this society I narrated the history of a case of optic atrophy which had been seen by a number of prominent ophthalmologists, all of whom gave an unfavorable prognosis. In order to encourage the man, who was in a desperate frame of mind on account of his increasing blindness, rather than because I expected any good results, I took him to a friend of mine to have galvanism applied. This has been done by means of one electrode placed on the occiput and the other on the eyes, at daily sittings, and the man's vision is apparently improving. I suppose as a result of stimulation. Of course, if the neuron—the terminal nerve-cell—is dead, nothing can be done to restore sight. I would like to know if any members of the society have had any experience of this kind.

FRACTURE OF THE NECK OF THE FEMUR IN YOUNG SUBJECTS AS A RESULT OF SLIGHT VIOLENCE.

DR. H. LING TAYLOR: At the meeting of the Orthopedic Section of the Academy this week I expect to show two cases of fracture of the neck of the femur in young subjects as a result of a slight fall. We are told in the books that this is apt to occur in elderly people but is rare in young persons except as a result of great violence. Dr. Royal Whitman has collected a number of cases occurring in children. My patients are boys, sixteen and eighteen years of age respectively, and in one case the injury was sustained by falling to the ground while crossing the street, in the other while walking on a piazza.

DR. FRANK GRAUER then read the paper of the evening, entitled

CIRRHOSIS OF THE LIVER, WITH SPECIAL REFERENCE TO ITS ETIOLOGY AND TREATMENT.

The disease was described as a condition in which the liver has become the seat of fibrous changes resembling cicatricial tissue. The term cirrhosis was first employed by Laennec because of the yellow color of the organ but is now used to describe disease of other organs in which there is this overgrowth of fibrous tissue. In cirrhosis of the liver the fibrous tissue is distributed throughout the organ in various ways. In the multilocal or most com-

mon variety, it forms a coarse network which involves the whole organ, each mesh enclosing a number of the hepatic lobules. In a second variety individual cells are surrounded by a finer network of fibrous tissue; in a third variety the lobules themselves are penetrated by the new tissue, and in still another dense bands of cicatricial tissue traverse the whole or greater part of the liver dividing it into irregular masses and causing by their contraction a deformity of the organ resembling that seen in so-called gummatous or syphilitic cirrhosis. Clinically the disease is divided into two well-marked types, the *atrophic* and *hypertrophic*. In the former variety the liver is small, weighing in some instances only a pound or a pound and a half. It is usually not adherent. It is tough, irregular in contour, and its surface covered with hobnail projections of variable size around which the capsule appears thickened. On section the organ is generally yellowish-red or jaundiced but at times has a sage-green tinge, and is permeated by a network of cicatricial tissue around islands of liver substance. The large branches of the portal vein are wide but their capillaries are compressed to such a degree that they obstruct the flow of blood in the portal vein.

The hypertrophic variety of the disease is much less common than the atrophic and presents many points of marked contrast. The liver increases in size, weighing from five to seven pounds and at times as much as ten. Its surface is smooth and shows no contraction. On section the organ is yellow or orange-green and its substance smooth or finely granular. It is tough in consistence but not so much so as in the first variety.

The most common cause of cirrhosis of the liver is excessive use of alcohol, compared to which all other causes are insignificant. Of all the organs of the body the liver is the one most affected by alcohol. The next most common cause of the disease is syphilis, either hereditary or acquired. In the former case there is a general fibroid condition of the liver; in the latter a localized fibroid change or scarring of the organ. Malaria has also been given as a cause of cirrhosis of the liver, and in a certain province in Italy it is said to bear a more important etiological relation to the disease than alcohol. The author cited a case of a young woman who developed cirrhosis of the liver after having suffered from malaria for about a year. She was tapped four times to relieve the ascites and died eight months after the onset of the disease. Autopsy showed a large cirrhotic liver and a large spleen, both of which showed the malarial pigment. The gouty diathesis and predisposition to cirrhosis in general are also etiological factors. Tuberculosis is a cause of atrophic cirrhosis. Infectious diseases, such as scarlet fever and even typhoid, play a part in the causation of cirrhosis, and recent work appears to be leading to the conclusion that the disease is brought about by a condition of toxemia.

In regard to treatment, alcohol must be strictly prohibited in all cases of cirrhosis of the liver, whatever the cause. Highly seasoned food, spices, and coffee should also be forbidden. Milk should form the main article of diet at the commencement of the disease. White meat

in small quantity may be allowed later, also vegetables and fruits which contain little starch. If there is any reason to suspect syphilis as an etiological factor, iodid of potassium and mercury should be given. Acids, bitter tonics, and mild preparations of iron may be given to relieve the gastro-intestinal symptoms. Medicine rarely has a permanent effect upon the ascites. In some instances the administration of diuretics is followed by a perceptible diminution of the ascites, and hydragogue cathartics decidedly lessen it. Tapping should be performed early.

DISCUSSION.

DR. R. H. GREENE: The ground has been most thoroughly covered by the paper. One indirect cause of cirrhosis of the liver has not been mentioned, however, namely, heredity. We all know that persons whose ancestors have died of cirrhosis of the liver or kidneys are liable to develop the disease. Such individuals are not considered good risks by the life-insurance companies.

In regard to treatment I believe that in future it will be found that electricity can be used with benefit in cirrhotic conditions of the various organs of the body.

DR. R. A. MURRAY: My experience teaches me that cirrhosis of the liver is generally accompanied by a similar condition of the kidney. I have seen a number of such cases. In acute cirrhosis with ascites I have known markedly good results to follow a single tapping. Two such cases were in Bellevue when I was there, years ago, and both patients are still alive. One of the patients was a saloonkeeper, a whisky-drinker, who was intoxicated when admitted. The other was a stone-mason who had been in the habit of drinking large quantities of beer. Ascites was extensive in each case, and both patients recovered after being tapped once.

I have removed enormous quantities of fluid by tapping these patients, and in one case I tapped nine times during a period of four years. After each tapping the swelling of the abdomen and limbs subsided and the patient was able to return to her business as a teacher of dancing. At her death autopsy showed not only cirrhosis of the liver but a cancerous nodule which pressed upon a vein. It is surprising how long some of these patients live. I have in mind a case in which thirty years ago a professional friend of mine made a diagnosis of cirrhosis of the liver and said that the patient could not live six months. The man had a gouty diathesis but he never developed ascites, and he lived thirty-five years after having been refused by every life-insurance company in the city. In another case the patient was told he could not live more than a few months. This was thirteen years ago. He was a drinking man and at once stopped drinking and has been comparatively well ever since.

DR. S. H. DESSAU: The remarks of the last speaker remind me of a very interesting case I saw in consultation some years ago. The patient, a woman, had a great deal of ascites and had been under the care of several different physicians, and had at one time been in the Rotunda Hospital in Dublin where she was operated upon under the mistaken diagnosis of ovarian dropsy. The

interesting feature of the case is that the ascites finally disappeared entirely without treatment, although at the time of her death she showed all the symptoms of cirrhosis.

The author has spoken of phosphorus as a cause of cirrhosis of the liver in children. I have seen several cases of cirrhosis in rickety children who had never been given phosphorus, and I think we may well believe that the rachitis was the cause of the cirrhosis. In one of these the liver decreased markedly in size under the administration of cod-liver oil with hypophosphites. Another cause of ascites in children has not been mentioned by the author, although during the past four years it has been referred to by the French writers, *vis.*, a cardiac lesion at the mitral orifice.

DR. ROBERT MILBANK: I have taken a few notes from my case-book about a case of acute yellow atrophy of the liver in which the symptoms were very similar to those caused by cirrhosis of the liver, and in which a diagnosis of the latter disease had been made by an experienced physician. The following is the history: F. L., aged twenty-two years, mother of two children, came under observation October 10th. She had been fairly well until the beginning of the illness, four weeks previously, which began with nausea, vomiting, headache, and an increasing yellowness of the skin. The vomiting was persistent and occurred at short intervals. She had been in the habit of drinking a good deal of beer, especially at night. When seen by me she had had occasional rigors at irregular intervals, followed by fever and sweating. During the last four days she had complained of a sharp pain in the right side, radiating from the lower border of the ribs toward the right nipple. The vomiting increased and became dark in color. Nutritive enemata and quinin by rectum were given. The patient became stupid and drowsy and later slightly delirious. Death occurred five days after my first visit and was preceded by slight convulsions and coma. Autopsy six and a half hours after death: Lungs slightly congested and edematous; surface of the heart showed areas of congestion; liver weighed two pounds and two drams, and had a yellow, granular appearance, showing considerable contraction on the surface; on section it presented a yellow and red granular appearance; hepatic vessels and ducts were all pervious. Spleen looked very large, but weighed only seven and one-half ounces. Right ovary contained an apoplectic clot. Urinary bladder was full, and examination of the urine showed epithelial casts, leucine, and tyrosin.

DR. H. L. TAYLOR: I was glad to hear the author speak of the effect upon the liver of chronic indigestion. There can be no doubt I think that the toxic products which are the result of chronic indigestion are the cause of many diseases.

DR. WILLIAM STEVENS: It is a mistake to think that patients suffering from cirrhosis must necessarily be hard drinkers. Some years ago I treated a clergyman who was a strict prohibitionist, and in another case the patient drank nothing stronger than unfermented grape-juice.

DR. J. H. FRUITNIGHT: I am of the opinion that

cirrhosis is due to some toxic element, either chemical or microbic. Autopsies made last spring during an epidemic of measles showed the liver to be affected in nearly all cases. I have seen a number of cases of cirrhosis in children due to heredity. As regards the absolute cure of the disease, I doubt if this be possible, although a relatively good state of health may be regained. One should be circumspect in regard to tapping. I once drew off fluid from the abdomen of a patient suffering from an enfeebled condition of the heart. Although I was careful not to remove all the fluid, the patient three hours after the tapping suddenly went into syncope and died.

DR. ROBERT NEWMAN: In regard to the use of electricity in cirrhosis of the liver, I know of instances in which the faradic current has been employed. It seems to me that static electricity would give good results by stimulating the liver and bring it to a normal state.

DR. GRAUER, in closing: In regard to the statement made by one of the speakers as to the connection between cirrhosis of the liver and kidney, the scope of my paper does not include the complications of the disease. It is, of course, well known that those who die of cirrhosis of the liver usually have cirrhosis of the kidney, and from the same cause, *i. e.*, alcoholism.

A complete cure of the disease is not possible, for when fibrous tissue has once formed it cannot be got rid of. What we hope and expect to do by means of treatment is to get rid of the ascites and establish a collateral circulation, such as is described by Osler in his "Practice of Medicine," and in this way prolong the life of the patient for years.

REVIEWS.

A MANUAL OF MODERN SURGERY, GENERAL AND OPERATIVE. Edited by JOHN CHALMERS DA COSTA, M.D., Clinical professor of Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, etc. Philadelphia: W. B. Saunders, 1898.

THIS excellent abridged volume on surgery appears in its second edition after an interval of four years. In the first edition the author gave the student the benefit of his extensive reading and experience as shown by the liberal quotation of authorities; in its present form, most of the accepted innovations of the past four years have been incorporated, with literary references in each instance. Such methods are commendable for they not only fit the student for subsequent reading, but they tend to preserve the traditions of surgery.

Every chapter has been benefited in this revision. The chapter on bone disease might, however, have been made more lucid for the student by considering any process in the bone as an osteomyelitis, or periostitis (acute, chronic, traumatic, and infectious), with caries, necrosis, sclerosis, plastic formations, and bone-abscess as sequels; these latter would then not be mistaken for diseases *per se*, but would be recognized as the results which they actually are.

The most noteworthy additions are on the surgery of the gastro-intestinal tract. The revised chapter on gunshot wounds harmonizes well with the experiences of surgeons during our recent hostilities. The last few pages are devoted to X-ray work.

THE METHODIST EPISCOPAL HOSPITAL REPORTS. Vol I. 1887-1897. Edited by LEWIS S. PILCHER, M.D., and GLENTWORTH R. BUTLER, M.D. Published by the Hospital, 1898.

THIS report of the young Brooklyn hospital is altogether admirable. It is a historical, surgical, and medical *résumé* of its first ten years of work. The professional part of the work is divided into three parts, the surgical, the medical, and the pediatric. They show that histories are well kept and accurate records established. Dr. Fowler's "Clinical Studies in Appendicitis," Dr. Pilcher's "Clinical Studies of the Surgical Diseases of the Female Generative Organs," Dr. Webster's "The Anesthetizations," and the article on "Surgical Operating-room Arrangements and Methods" (Dr. Pilcher) are instructive and interesting. Dr. Matheson has studied the typhoid cases, Dr. Shaw the cases of disease of the lungs, bronchi, and pleura, Dr. Belcher the cases of aneurism, and Dr. De Forest the cases of pregnancy. Dr. Bogart contributes a study on empyema in children. The 563 pages of the book convey an excellent notion of the hospital's systematic, scientific work. The report is a model of what that of the smaller hospitals should be.

ATLAS AND EPITOME OF OPERATIVE SURGERY. Edited by DR. OTTO ZUCKERKANDL, Privat-docent in the University of Vienna. Translation edited by J. CHALMERS DA COSTA, M.D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, etc. Philadelphia: W. B. Saunders, 1898.

THE subject of operative surgery lends itself preeminently to illustration, and in this hand-atlas is represented by twenty-four excellent colored plates and 217 wood-cuts reproduced from photographs. In the text many more operations are considered than are illustrated, which is quite inconsistent with the purpose of an atlas. Surprising is the omission of a number of illustrations of operations on the gastro-intestinal tract, for external urethrotomy, for empyema, for hydrocele, and for operations on the rectum and uterus.

By frequent annotations the translator has brought the work up to date and rendered it more acceptable to the American student. There is nothing distinctively meritorious in this work to attract attention save the distinguished names of the editors.

OUTLINES OF PRACTICAL SURGERY. Edited by WALTER G. SPENCER, M.B., M.S., F.R.C.S., Surgeon to Westminster Hospital. London: Baillière, Tindall, & Cox, 1898.

THIS work is the analogue of our compends, yet the current style of the descriptions makes it more readable than the usual compend with its cut-and-dried queries and answers. It can not be judged by the same standards as

larger text-books on surgery, but it certainly merits the attention of the busy student for the very terse but practical hints in the treatment of surgical affections.

The subject of etiology suffers much because of the step-motherly consideration that bacteriology and pathology receive. Diagrammatic illustrations are used throughout, some of which are very unintelligible; as, for instance, that illustrating Maunsell's operation for intestinal anastomosis. The author assumes a most alarming attitude toward cocaine, even gainsaying its anesthetic properties when injected subcutaneously. As an epitome of surgery this text-book might be of service to the student preparing for examinations.

PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Third edition, enlarged and revised. Philadelphia and New York: Lea Brothers & Co., 1898.

THIS is a companion volume to the author's "Practical Therapeutics" and is arranged upon similarly ingenious lines. The popularity of the book is evident from the fact that it has reached a third edition in three years. The author has improved the present opportunity to bring the work up to the latest scientific discoveries in the art of making diagnoses. The revision is, perhaps, most marked and noticeable in the chapters dealing with the blood and the diseases of the nervous system.

After a lengthy introduction, the author divides his work into two parts: "The Manifestation of Disease in Organs" and "The Manifestation of Disease by Symptoms," the two parts being corollaries of each other, rendering reference and cross-reference easy, and forming a tolerably complete text-book of diagnostic medicine. The grouping of symptoms and assigning them to the various diseases in which they may appear is particularly well done and must prove exceedingly useful to the puzzled practitioner.

Extended review of this work is scarcely called for. The reviewer can but express his gratification that the book has been so carefully revised and can but reiterate that its unique character and thorough usefulness are certain to maintain its popularity. The handsome illustrations and copious index add to the literary excellence of the book.

ACCIDENT AND INJURY; Their Relations to Diseases of the Nervous System. By PEARCE BAILEY, A.M., M.D. New York: D. Appleton & Co., 1898.

THE author has evidently devoted much industry and labor in getting from numerous sources the material which he so ably presents in this book. The work fairly represents the present position of neurological science in reference to a class of diseases specifically due to traumatism. Dr. Bailey frankly states that we are as yet ignorant of the nature of the traumatic neuroses but still much has been elicited in reference to their causes and symptoms. It is the purpose of this book chiefly to offer the latter in such a way as to further their recognition as distinct clin-

ical entities and to render their diagnosis a little more easy.

The book begins with a consideration of injuries to the nervous system of organic character, as well as the effects of such injuries. Part II. deals with the functional effects of injury and the nervous disorders which frequently follow railway and allied accidents, the so-called "traumatic neuroses." An entire division of the work is given to malingering.

Much may be said in praise of this book, its composition and style deserving special comment in this regard. It is comprehensive and shows the labor of a student.

THERAPEUTIC HINTS.

For Gastralgia.—

℞ Morphine hydrochlorat.	gr. iii
Cocain. hydrochlorat.	gr. v—viii
Tinct. belladonnæ.	3 i—ii
Aq. amygdalæ amaræ	q.s.ad. 3 i.

M. Sig. Ten to fifteen drops every hour.

For Vesicular Eczema of Scrotum.—According to WITZACK it is not advisable to use a powder, since when mixed with the secretion from the affected surface it cakes and falls off. The application of compresses wet with an astringent solution is recommended, as for instance:

℞ Aluminii acetat.	3 v
Liq. plumbi subacetat.	3 ss—3 iiss
Aquæ	3 iii.

M. Sig. External use.

If the epithelium is gone it is best to employ a mixture of 1 to 2 parts of white precipitate ointment with Lassar paste. It will often be found helpful to cauterize by means of a solution (10 to 50 per cent.) of caustic potash applied on a cotton tampon; the caustic is then washed off and the part covered by Lassar paste. Or nitrate of silver (a 10- or 20-per-cent. solution) may be chosen.

For Pleurisy with Effusion.—For reasons not yet understood much benefit is derived in this affection, when of tubercular origin, from treatment by mercury added to or alternating with creosote. This is said to be true also of tuberculosis of the lungs, glands, and skin. Occasionally, gastric pain or slight diarrhea is produced, but is easily cured by suspension of treatment for a few days:

℞ Hydrargyri chloridi corrosivi	} aa gr. xv
Sodii chloridi	
Ext. opii	
Fresh bread crumbs	gr. lxxv
Gluten	gr. xl
Glycerini	m. xxx—xlvi.

M. Ft. pil. No. C. Sig. One to three pills daily during a meal.—Robin.

For Flatulence in Children.—

℞ Sodii sulphocarb.	gr. iv—viii
Syr. aurantii	m. xl
Aq. menthæ pip.	q.s.ad. 3 i.

M. Sig. One teaspoonful three times a day for two days.—Freyberger.